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# Evolution of physical therapy at the Medical College of Virginia and Virginia Commonwealth University

Mary Snyder Shall

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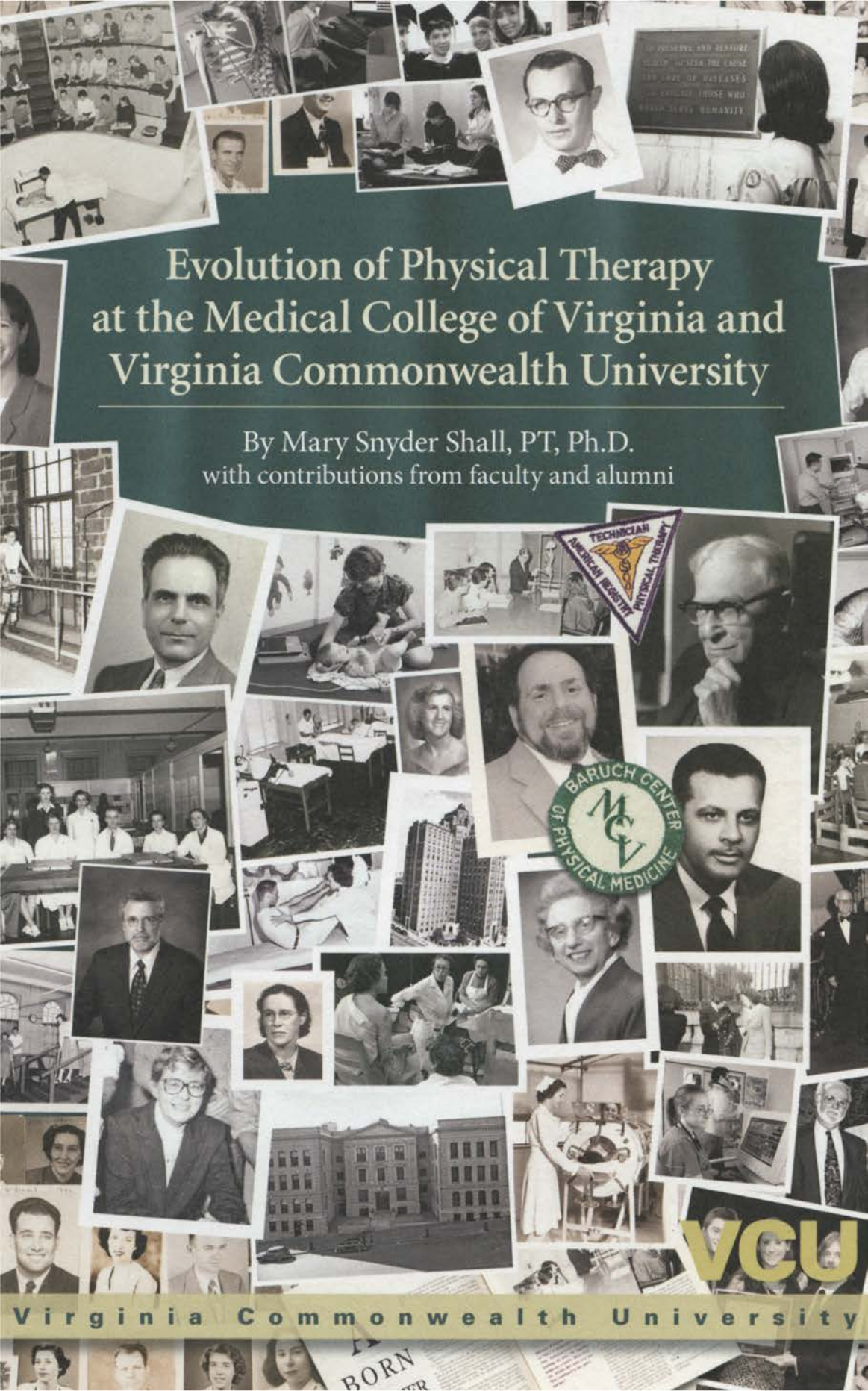
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# Evolution of Physical Therapy at the Medical College of Virginia and Virginia Commonwealth University

By Mary Snyder Shall, PT, Ph.D.  
with contributions from faculty and alumni

Virginia Commonwealth University



BORN

# Evolution of Physical Therapy at the Medical College of Virginia and Virginia Commonwealth University

History by Mary Snyder Shall, PT, Ph.D., with contributions  
and editing from the VCU Department of Physical Therapy  
faculty and alumni



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of Physical Therapy

#### **Acknowledgments**

The profession of physical therapy has a rich history of people who have devoted their lives to helping others recover their physical health after injury or disease. The Medical College of Virginia, from 1931 to 1968, and now Virginia Commonwealth University have had their share of leaders in this field — leaders whose stories would have remained in file folders if not for alumni such as Charles “Smitty” Smith, Betty Duncan, Nancy Flowers and Macon Sizemore who took time to share their memories. Thanks to Dan Riddle for writing the biography of Jules Rothstein. And thanks to Sheryl Finucane for the initial editorial comments. (Years of editing graduate student theses have given her that special talent.) Thanks to Tom Mayhew for allowing me the time to gather the materials. Most of all, we all acknowledge Miss Susanne Hirt for inspiring us.

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**“As we move forward into the future, it may serve us well to bring back to mind briefly those colleagues of ours who ran this relay race before us, the pioneers of our profession, who laid down in fact and in spirit the foundations upon which we are now building.”**

*– Susanne B. Hirt, RPT, M.Ed.,  
speaking at the 16th annual  
Mary McMillan Lecture, 1981*

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## CHAPTER 1

# The early years, 1931-1943

Physical therapists formed their first professional association, the American Women's Physical Therapeutic Association, in 1921. By the end of the 1930s, the association's name had changed to the American Physiotherapy Association, men were admitted and membership grew to just under 1,000.

The American Physical Therapy Association (APTA) approved the first physical therapy program in Virginia on December 12, 1931. At that time, the programs were called schools and Virginia's school fell under the umbrella of the Richmond division of the College of William and Mary, which later became Richmond Professional Institute, the precursor to Virginia Commonwealth University.

The first public mention of the physical therapy school appeared in the 1931-32 bulletin of the Richmond division of the College of William and Mary. It also was listed in *The Physiotherapy Review* in 1936. The nine-month program in physical therapy, based on the APTA standards, was offered by the Department of Physical Education, under the medical direction of Thomas F. Wheeldon, M.D., an orthopaedic surgeon, at his clinic (27 West Franklin Street). Alice Jones, RPT, and Erma Cannon, RPT, served as the technical directors for the school. The course in anatomy was taught at the Medical College of Virginia,



Curriculum 3, after completing the fundamental work, is planned to prepare students especially for another branch of the profession, physical therapy in hospitals and clinics or as physicians' aids.

CURRICULA FOR COLLEGE GRADUATES

- Two programs of study are offered college graduates:
1. A one-year course in recreation and community work is offered by the School of Social Work. See Part II, page 40.
  2. A one-year course in physical therapy is offered in Richmond by the Department of Physical Education of the College of William and Mary.

ONE-YEAR CURRICULUM IN PHYSICAL THERAPY

This is open only (1) to college graduates who have majored in physical education and (2) graduate nurses. The number of students is limited. Students who satisfactorily complete the course will be awarded a certificate. The curriculum which is based upon the standards of the American Physical Therapy Association, is as follows:

	Semester Hour Credits
Anatomy: 354 hours lecture and dissection.....	10
Physiology: 54 hours lecture; 68 hours laboratory.....	5
Physics: 30 hours lecture; 60 hours laboratory.....	3
Applied anatomy and muscle training: 60 hours lecture; 72 hours practice.....	5
Pathology and surgical observation: 36 hours lecture; 40 hours observation.....	3
Massage and corrective exercises: 36 hours lecture; 100 hours practice.....	3
Orthopedics: 36 hours lecture; 60 hours practice.....	3
Heat, light, water and mechanical therapy: 36 hours lecture; 54 hours practice.....	3
Ethics and case work: 36 hours.....	2
	34

Unless previously completed ten semester hours in chemistry are also required. This must be taken in Summer School.

Fig. 1.1: Physical therapy curriculum listed in the 1931-32 Richmond Professional Institute bulletin

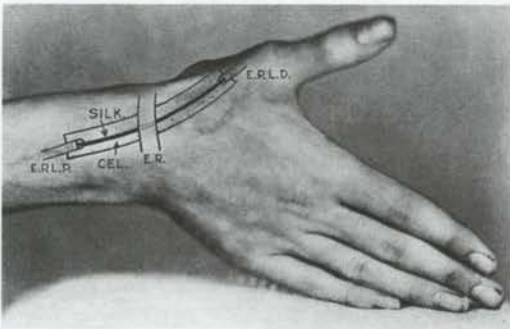


Fig. 1.2: "The use of cellophane as a permanent tendon sheath" by Thomas Wheeldon, M.D., appeared in the Journal of Bone & Joint Surgery in 1939

Fig. 1.3: "Walking members for the bilateral amputation of thigh" by Thomas Wheeldon, M.D., appeared in the Journal of Bone & Joint Surgery in 1933



although human cadavers were not used until 1936 (and an \$80 laboratory fee was charged). The physical therapy school appeared on the American Medical Association's first list of approved physical therapy schools published August 29, 1936.

While the anatomy course and the clinic were conducted at MCV, the degree was administered through the Richmond division of the College of William and Mary. According to Henry H. Hibbs Jr., Ph.D., in his book, *A History of the Richmond Professional Institute*, (Hibbs, 1973) the name of the college was changed in 1939 to "Richmond Professional Institution of the College of William and Mary." However, this created more confusion and William and Mary President John Bryan concluded that the "institution in Richmond is a different college from the one in Williamsburg. ... Since it is a specialized institution whose reputation depends not on work in arts and sciences but, mainly, on education of the occupation, technological or professional type, why not call it the 'Richmond Professional Institute,' with the abbreviated name of RPI?"

RPI, however, didn't become a separate state institution until 1962 by action of the Virginia General Assembly. Dr. Hibbs, RPI's first director, advertised \$300 scholarships in a 1943 bulletin: "The Richmond Professional Institute of the College of William and Mary is the only training school in the South offering courses in Physical Therapy and Occupational Therapy."

Dr. Wheeldon requested and received accreditation from the APTA in 1931, with the co-signature of Dr. Hibbs.

## Thomas Foster Wheeldon, M.D.

Dr. Wheeldon (1892-1976) entered college at the age of thirteen. He received his bachelor's degree in science from the University of Missouri and worked as a lab assistant in zoology and comparative anatomy for two years while earning his Master of Science degree. He assisted in microscopic anatomy while attending Harvard Medical School and graduated in 1918. Some of the sectional studies that he conducted in microscopic anatomy are considered classics and still displayed at the Warren Anatomical Museum at Harvard Medical School. He trained at the Boston City Hospital before moving to Virginia.

In medical practice, Dr. Wheeldon was particularly interested in the orthopaedic problems of children and young adults, and became one of the first orthopaedic surgeons in Virginia. In the 1920s and 1930s, he treated many children with braces and prosthetics through funding



from the Capital District Kiwanis. In 1930, plans were completed whereby the Kiwanis Clinic for Crippled Children, founded in 1926, was turned over to the MCV outpatient department, with continued aid from the Kiwanis Club. Dr. Wheeldon served as the chief-in-charge under this new plan and was assisted by other surgeons, which allowed him to expand the clinic from once a week to three times a week. With MCV faculty teaching the anatomy course and other academic material, Dr. Wheeldon also began training physical therapists to work with the children on motor development.

Dr. Wheeldon submitted case studies from the clinic to medical journals. The Under-privileged Child Committee of the Capital District Kiwanis Club wrote the following about the clinic:

“We would like to very earnestly impress upon the members of this club this thought, that is, the advantage of a clinic such as we have participated in for [sic] 1930, chiefly because of the facilities that it offers regarding general medical service, clinic clerical staff, and it offers the opportunity of teaching students this work. Now, as to the general medical service, we elaborate on it to this extent to say that these children who come to the clinic, sometimes through their weakened condition in general, often need other medical attention than for the straightening of their limbs or other deformities, and when this is necessary there are doctors available at the clinic who practice in all of the various lines of medicine known to science. We think this is of the highest importance. The teaching of students, we believe, is most important if there are to be men available for this work in the future. This work was begun in 1927 and the club subscribed \$4,250 and during that year 2,577 patients were treated. In 1928 the club subscribed \$4,291 and 2,951 patients were treated. In 1929 the club subscribed \$3,286.69 and treated 2,495 patients. In 1930 the club subscribed \$1,800 and treated 2,963 patients. Since we took up this work during all these combined years we have treated patients to the number of 10,986. We must in closing this report thank those physicians who served at the clinic, and the names are as follows: Dr. Thomas F. Wheeldon, chief; Dr. Blair Fitts; Dr. D.M. Faulkner; Dr. J.B. Dalton; Dr. Randolph Anderson; and we again want to express our appreciation to Dr. William T. Sanger and the entire Executive Committee



of the Medical College of Virginia for giving us the opportunity of serving these children in a way that would have been impossible to have done without their help.”

He organized thirteen Crippled Children Clinics in Virginia and two in North Carolina. As evidence of notable success in his work with children with disabilities, Dr. Wheeldon became an honorary member of Rotary International in 1950.

Dr. Wheeldon married Gladys Jenkins from the physical therapy class of 1938. She was active in the Women’s Board of Managers of Sheltering Arms Hospital and in the Richmond Academy of Medicine Auxiliary. Later in life, Dr. Wheeldon founded the Middle Atlantic Chapter of the American Rhododendron Society.

Following her husband’s death in 1976, Mrs. Wheeldon continued in rhododendron-related causes until her death in January 2007.

## **Certificate in physical therapy**

The physical therapy curriculum was open only to college graduates who majored in physical education or who were graduate nurses. The prerequisite courses were somewhat similar to those required today except that physics was included in the twelve-month physical therapy program. The curriculum was based upon the standards of the APTA, including anatomy; physiology; applied anatomy and muscle training; pathology and surgical observation; massage and corrective exercises; orthopaedics; heat, light, water and mechanical therapy; and ethics and case work.

On June 10, 1932, Pearl Brown of Newport, Vermont, and Clara Weigle of Bergenfield, New Jersey, became the first graduates of the program. The John Marshall Hotel hosted the graduation, with closing exercises held at the gymnasium at Franklin and Shafer Streets. W.T. Hodges, M.A., director of extension and professor of education at the College of William and Mary, gave the graduation address.

## **Student life**

According to Dr. Hibbs (Hibbs, 1973) most students lived in dormitories on campus, which had a few buildings clustered around Franklin and Shafer Streets. RPI had purchased old hotels and apartment houses at reasonable prices and converted the properties into dormitories.

The physical therapy program was intense, leaving little time for carousing. With the onset of the Great Depression, young men and women were often strapped for funds and were serious about training for a job with a good possibility of steady income. Prohibition was in force until 1933, but, as Virginius Dabney wrote in his book, *Virginia Commonwealth University: A Sesquicentennial History*, (Dabney, 1987) students “presumably were not unduly hampered by these legal inhibitions.”

A Cotillion Club organized by the students opened membership to any “qualified person who wished to join” (Hibbs, 1973). This prevented the establishment of social fraternities or sororities on campus until about 1963.

## CHAPTER 2

# The Baruch grant, 1944-1951

A major step in the evolution of physical therapy occurred in 1944 because of a grant from the Baruch Committee on Physical Medicine. (Later, physical therapy chair Susanne B. Hirt, RPT, M.Ed., described the grant as the “big bang.”) This idea of a grant supporting physical medicine as a specialty gained its spark some eighty years earlier when Simon Baruch, M.D., finished his basic medical training at MCV in 1862. At that time, MCV consisted of the Egyptian Building and an infirmary. Dr. Baruch’s early clinical experience was in the Civil War. Later, he taught at Columbia University College of Physicians and Surgeons, where he became a champion of hydrotherapy. He used various pressures and temperatures in applying hydrotherapy to the treatment of rheumatism, pneumonia and typhoid.

Dr. Baruch died in 1920, but the interest in physical medicine was carried on by his son, financier Bernard M. Baruch. In 1930, the legislature of the state of New York, facilitated by then-Governor Franklin D. Roosevelt, launched a commission with Mr. Baruch as chairman, to study opportunities for the development of the Saratoga Spa facilities. In 1943, now-President Franklin D. Roosevelt appointed Mr. Baruch to a committee on physical medicine charged with studying the possibilities for physical rehabilitation of the “war wounded.” It is quite possible

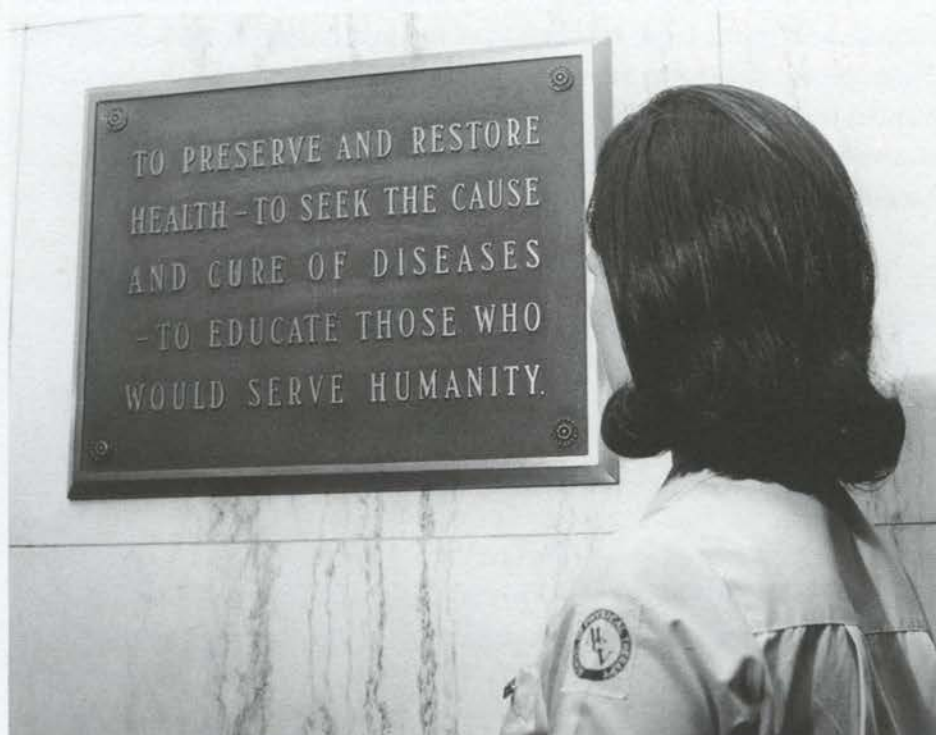




*Fig. 2.1: Simon Baruch, M.D., Class of 1862, in his uniform as a Confederate surgeon. The portrait was presented to the Tompkins-McCaw Library for the Health Sciences by his grandson, Robert P. Baruch.*



*Fig. 2.2: Bernard M. Baruch, circa 1947*



*Fig. 2.3: Baruch Center mission posted on the first-floor rotunda in West Hospital*

that FDR was also motivated by his own disability and experience with the Warm Springs Foundation in Warm Springs, Georgia, when he asked the son of “the father of hydrotherapy” to develop the rehabilitation concept. William T. Sanger, M.D., president of MCV, chaired the Subcommittee on Basic Research. Frank Krusen, M.D., chairman of the Department of Physical Medicine at the Mayo Clinic, chaired the Subcommittee on Teaching and took over the chairmanship of the Baruch Committee in 1945. Frances A. Hellebrandt, M.D., a prominent exercise physiologist and director of the Department of Physical Medicine at the University of Wisconsin-Madison, was also appointed to the Subcommittee on Teaching. Lt. Col. Howard Rusk, M.D., chief of medical services at Jefferson Barracks in St. Louis, became a member of the Subcommittee on Rehabilitation and later was instrumental in the development of “physical medicine” as a medical discipline. Some may recognize these names and understand why in 1944 the committee, led by Mr. Baruch, offered more than \$1 million to three medical centers to facilitate teaching and research in physical medicine (Columbia University; New York University Institute of Medical Rehabilitation, directed by Rusk; and MCV, where Dr. Sanger was president and hired Dr. Hellebrandt to direct the Baruch Center). Smaller grants were given to six other universities (Folz et al., 1997).

The Baruch Center of Physical Medicine at MCV was named in honor of Mr. Baruch’s father, and the Baruch money was to be spent on education and research, particularly in the areas of “hydrotherapy, spa therapy and climatology.” In 1944, Dr. Sanger asked Dr. Hellebrandt to be the overall director of the center. The center would include a physical therapy school and a clinical department of physical medicine (though the physical medicine department wasn’t established until 1947).

At that time, a “technical assistant” was considered the agent of the physician in the administration of the physical treatment. The RPI physical therapy “technician training school” was folded into the Baruch Center. In April 1945, the physical therapy school was listed as a joint venture with the academic preparation offered by RPI (of the College of William and Mary), with MCV taking care of the professional education. M.G. Westmoreland, M.D., of the Council on Medical Education of the American Medical Association, inspected the physical therapy school on September 22, 1945, and noted that the name and location of the newly accredited program was transferred from RPI to MCV. The initial class in 1945 comprised eighteen students from eleven different states; seventy-eight percent were nurses. United States Army



technicians who had administered military physical therapy were accommodated in vocational rehabilitation courses, which could be pursued under the G.I. Bill of Rights. In February 1946, MCV contracted with the United States Navy to assist the Navy's emergency need for physical therapy to rehabilitate the veterans of the war.

Josephine Buchanan, RPT, M.A., M.D., served as technical director of the physical therapy school from 1944 until 1948, when W. Jerome Lee, M.D., became the interim medical director. Dr. Hellebrandt recruited Miss Hirt from the University of Wisconsin as an assistant professor of anatomy in 1944. She later earned her Master of Education degree from the University of Virginia in 1956.

From the outset, Dr. Hellebrandt proposed three functions of the Baruch Center: "1) To serve the sick through the rational use of physical therapeutic procedures; 2) to contribute to the advancement of human knowledge in the field of physical medicine through systematic, basic and clinical research; and 3) to provide educational facilities for the training of technical personnel in the practice of this branch of medicine" (Hellebrandt, 1950). Prior to the war, less emphasis was placed on the field of physical medicine. A new focus on disability evaluation and rehabilitation began when the injured soldier first entered the hospital. The use of physical agents in the treatment of disease was common, but now it appeared that they helped the war wounded to recover faster. Dr. Hellebrandt also was an advocate of therapeutic exercise in the rehabilitation of the war wounded. "The most important of the specific objectives of therapeutic exercise are three in number: first, to mobilize joints; second, to increase strength; and third, to develop coordination and skill in the performance of movement." She applied this further to the patients with poliomyelitis. "It is far more common in poliomyelitis to have a partial falling out of anterior horn cells and motor units than complete destruction. Little is known thus far, of how effectively the full complement of those which remain can be brought into sufficiently synchronous phasic contraction to induce compensatory hypertrophy" (Hellebrandt, 1946). Motor unit recruitment in normal movement and disease has been a subject of continued discussion over the years.

Unfortunately, skepticism and a lack of scientific research, coupled with the persistent attempt to teach physical therapy as a technical skill at other places rather than education at a high academic level, impeded the effective growth in this area. Dr. Hellebrandt and Ernst Fischer, M.D., professor in the Department of Physiology at MCV, wrote in the 1945 yearbook: "The advances in our general knowledge of physiology,



especially those concerning vascular regulations, lymph formation and transport, action of the autonomic nervous system, and photodynamic reactions, to name but a few, enable us to visualize, to some extent at least, how various therapeutic agents may influence certain body functions and pathological processes.” It was clear that Dr. Hellebrandt aimed to establish a higher level of education and research in this area.

Dr. Fischer headed the research laboratory; Clifton B. Cosby, M.A., was an assistant professor of biophysics who directed the applied physics laboratory; and Dr. Hellebrandt led the clinical research laboratory. Mr. Baruch would have preferred a heavier emphasis on the hydrotherapy in memory of his father, but after samples of water were collected from various spas and warm springs and analyzed and the effects of temperature were studied, no significant effects were discovered. Whirlpool temperatures and turbulence were analyzed and the challenges of seasonal influences on the control of temperature were discussed. “In Richmond, cold tap water ranges from approximately 45 F in the winter time to approximately 70 F. The temperature of the hot water leaving the power plant ranges from 140 to 180 F” (Hellebrandt, Houtz, & Eubank, 1951).

Dr. Fischer was internationally known for his study of the fundamental physiological and chemical properties of denervated skeletal muscle. He was initially interested in the influence of weather conditions on grip strength but eventually concluded that a “distinct” change in muscle strength was only seen in a minority of subjects, with winter holding the greatest influence. Ernst Huf, Ph.D., M.D., professor in MCV’s Department of Physiology, worked in Dr. Fischer’s lab at isolating the myosin protein and measuring the effects of denervation, muscle atrophy and thyroid activity. Dr. Huf coined the term, “active transport,” an important concept in muscle physiology. Dr. Cosby focused on the measurement of the most effective parameters of diathermy and ultraviolet radiation. “Ordinarily the correct dosage of ultraviolet energy is provided in three steps. ... It appears that the first and third step, the standardization of the source and its regulation to give the dosage, may be telescoped together automatically by an electronic device to render the dosage once the prescription is in hand” (Cosby, 1947).

Because of the lack of animal research space within the Baruch Center, the basic research laboratory moved to the Department of Physiology. The first advanced master’s program was established in physical therapy at MCV in 1946 with the first physical therapist, Margaret Moore, graduating with a Master of Science in 1948 after completing her thesis,



Fig. 2.4: Baruch Center physical therapy shoulder patch



Fig. 2.5: Ernst Fischer, M.D., circa 1945



Fig. 2.6: Frances A. Hellebrandt, M.D., testing EMG on the arm of a seated subject



Fig. 2.7: Florence Frazier (Class of 1949) showing her military ribbons to instructor Milly Heap, circa 1949



Fig. 2.8: Physical medicine staff, circa 1950: Seated are W.J. Lee, Ruth Latimer, Florence Strayer, Robert Eubank, Thelma Pederson and F.A. Hellebrandt; standing are Ruby Scherer and Susanne Hirt.



“Clinical Measurement of Joint Motion.” Under the mentorship of Dr. Hellebrandt and research associate Ellen Duvall, Ph.D., Miss Moore constructed a variety of wooden goniometers in the department’s clinical research laboratory in the Baruch Center. The purpose of her thesis was to create a reliable measurement tool by designing procedures for the performance of the “controversial technical procedure” (Moore, 1948). Miss Moore subsequently wrote a three-part article on “The Measurement of Joint Motion” for *The Physical Therapy Review* in 1949.

The advanced physical therapy program graduated nine more students, in addition to Miss Moore, with an M.S. over the next six years, including Milly Heap, Sara Jane Houtz, Mary Lawrence, Agnes Snyder and Ruth M. Latimer. All ten students were registered physical therapists, and several studied under the provisions of the G.I. Bill.

Miss Heap and Miss Latimer remained at MCV as technical directors of the physical therapy training school. Another graduate was recruited by the University of Colorado’s new physical therapy training school as its technical director; and another graduate became an instructor of physical medicine at the University of Wisconsin.

In her speech to the alumni in 1985, Miss Hirt, who served as chair of the physical therapy program from 1948 to 1982, recognized Miss Latimer as one of the “most valuable contributors” to the field. “By utilizing problem-solving techniques in her teaching of physical agents, she laid the foundation for lab and classroom teaching for many years to come.”

Dr. Hellebrandt resigned from the position of director of the Baruch Center in 1951. As a result, the activities of the clinical research division were suspended. Miss Hirt, after twenty years as department chair, reminisced that when Dr. Hellebrandt left, “the ‘Bang’ was over and we were left with the ‘ripples.’”

## Certificate in physical therapy

Initially, all students were admitted to the Baruch Center with bachelor’s degrees, and they earned a certificate after completing the twelve months of professional course work in physical therapy. The thirty-two credit hours covered anatomy and kinesiology, physiology, physics, psychiatry, pathology, orthopaedics, massage, phototherapy, hydrotherapy, bandaging, and therapeutic exercise and rehabilitation. The program provided good facilities for its time, designed to permit high-



quality professional teaching. The staff was unique in the inclusion of a full professor of physiology (Dr. Fischer), assistant professors of anatomy (Miss Hirt and Everett H. Ingersoll, Ph.D.), assistant professors of physics and a professor in physical medicine (Dr. Hellebrandt). In a letter written in September 1945 announcing the physical therapy program to the heads of departments at MCV, Dr. Hellebrandt concluded, "The general quality of the students is sufficiently high to warrant the institution of an educational program pitched to the graduate school level."

The enrollment of both veterans and non-veterans grew as opportunities in the workforce increased. In September 1946, a second class of forty-two students representing twenty-five states was admitted to the undergraduate program. The class matriculating in 1947 consisted of forty students from twenty-one different states. Charles Smith, graduate of the Class of 1949, pointed out that "all of the men in our class except one were veterans." The three initial classes that benefited from the Baruch money came from thirty-four states, with eighty percent from states other than Virginia. Of the thirty-six that completed their training during the summer of 1946, eight remained in Virginia, twenty-four spread out to other states and two were stationed at overseas naval stations.

At the completion of their courses, students were assigned for a period of three months of clinical training. Successful completion of the clinical training periods was judged by the clinical supervisors as well as the school faculty. Clinical internships took place in hospitals located in Virginia, West Virginia, Washington, D.C., Maryland, New York, Pennsylvania, Massachusetts, Wisconsin, Missouri, Louisiana, Texas and California.

In the mid-1940s, an aptitude-testing program was initiated to promote stable admission policies. The battery of tests covered a wide range of capacities with a moderate degree of validity related to the subject matter in the field of physical therapy. Unfortunately, "eighteen physical therapy graduates ranked but little above the mean for the entire group on all aptitude tests given" (Hellebrandt, 1948). A comprehensive examination was also developed, with the teaching faculty submitting questions to the promotions committee. The comprehensive examination had 336 test items with thirty-five percent coming from anatomy. The average time for the test was three hours. The faculty found the comprehensive examination invaluable for evaluating the

teaching outcome, as well as providing an evaluation of the “comparative strength of teaching in the different divisions of the curriculum” (Hellebrandt, 1948).

Dr. Sanger, president of MCV from 1925 to 1955, was aggressive in preparing the college for national prominence. He doubled the number of beds and changed the skyline of Richmond by obtaining funding from the state and a Public Works Administration grant to build MCV Hospital (later named West Hospital), which was Virginia’s second-tallest building when it was built, in 1941. In 1947-48, the Department of Physical Medicine was established in the School of Medicine.

The physical therapy teaching laboratory was located in the unfinished west wing of the sixteenth floor of MCV Hospital, but the conditions were deplorable — with inadequate heat and uncontrollable drafts in the winter and tar dropping from the ceiling in the summer. In 1947, Dr. Hellebrandt talked the administration into consolidating the lectures and laboratories in the Memorial Hospital building.

The history of Memorial Hospital dates back to 1899, when George Ben Johnston, M.D., one of the South’s noted surgeons and gynecologists, and Ennion G. Williams, Virginia’s first state health commissioner, proposed a “large private hospital” for Richmond. John L. Williams, founder of a successful banking firm, gave \$100,000 to build the hospital in memory of his daughter, Charlotte Randolph Williams, who drowned on July 7, 1884, at Old Point Comfort. The Charlotte Williams Hospital Corp. was chartered to manage Memorial Hospital in 1903. MCV took over the hospital in 1905, and it served as the primary MCV hospital for thirty-eight years. When MCV’s hospitals were integrated in 1965, administrators renamed St. Philip Hospital as East Hospital, MCV Hospital became West Hospital and Memorial Hospital became South Hospital. It took a couple of years before the chicken coops (still present from one of Memorial Hospital’s former functions of testing chicken blood for the markets division of the commonwealth of Virginia) were moved out. The delay was partially because of a construction worker strike, preventing the construction of new chicken coops elsewhere. The chickens couldn’t move out until the strike was over, so the physical therapy program move was delayed. Finally, in September 1949, the various departmental activities were consolidated in South Hospital. Half of the east wing of the fourth floor of South Hospital was converted into a lecture room, and one-half was reserved for a teaching gymnasium. The south wing, designed as a sixteen-bed ward, was transformed into a clinical practice laboratory,





*Fig. 2.9: West Hospital 16th-floor classroom, circa 1948*



*Fig. 2.10: Memorial Hospital, circa 1950, later renamed South Hospital*



*Fig. 2.11: Susanne B. Hirt, RPT, M.Ed., demonstrating exercise in the South Hospital surgical amphitheater, nicknamed the "Snake Pit," circa 1949*



*Fig. 2.12: Modalities lab in South Hospital, circa 1950*



equipped with physical therapy equipment as well as equipment for teaching laboratory courses in applied physiology and medical physics. The main lecture room (dubbed the "Snake Pit") was equipped with a blackboard, skeleton, slide projectors and anatomical charts.

In his book, *As I Remember*, former MCV President Dr. Sanger described one of his unrealized aspirations. He wrote that he proposed to Mr. Baruch a "comprehensive Baruch Center for rehabilitation and research" that would include two buildings on the northwest corner of 12th and Marshall Streets: a research unit and a "hospital uniquely designed for the rehabilitation of patients." It would have modern equipment and an "especially competent staff of therapists." Unfortunately, the Institute for Physical Medicine and Rehabilitation was built in New York instead of Richmond. Nevertheless, the clinical program of the hospital division of MCV moved steadily in directions that would strengthen the practical work of the physical therapy program. During the 1945-46 epidemic season, the Department of Physical Medicine laid the foundation for an integrated program of medical care for patients hospitalized because of acute poliomyelitis. With the support of local chapters of the National Foundation for Infantile Paralysis, a small, but well-equipped Infantile Paralysis Treatment Center was established under the supervision of Josephine J. Buchanan, RPT, M.A., M.D. Dr. Buchanan had previously worked as a physical therapist with polio patients at the Warm Springs Foundation in Warm Springs, Georgia. She was assisted at the new MCV center by Miss Hirt, Carolyn Leland and Florence Case.

Before coming to Richmond, Miss Hirt served as the chief physical therapist for poliomyelitis at the University of Wisconsin General Hospital. Miss Leland had extensive epidemic service with the National Foundation for Infantile Paralysis. Miss Case was a nurse-physical therapist with six months of postgraduate training in infantile paralysis at the University of Minnesota.

## Faculty

### Frances A. Hellebrandt, M.D.

Dr. Hellebrandt was born October 24, 1901, in Chicago of Czech parents. Miss Hirt remarked later, "The speed with which the Baruch Center [for Physical Medicine] became fully functioning was almost a miracle. But Dr. Hellebrandt was not only a brilliant researcher; she also was a skillful administrator."

Dr. Hellebrandt wrote 167 journal articles across fifty-seven years. The first, addressing albuminuria following exercise, was published in the *American Journal of Physiology* in June 1932. Her last article, "Aging among the advantaged: A new look at the stereotype of the elderly," appeared in the journal *Gerontologist* in 1980. In 1945, Dr. Hellebrandt was the first woman to hold the rank of professor in the MCV School of Medicine.

Miss Moore, the first physical therapist to graduate with a Master of Science from MCV in 1948, described Dr. Hellebrandt as "the most thorough physician I believe I've ever been associated with. ... She was very fair, but she was a molder of people, and she never knew an eight-hour work day. They didn't exist" (APTA, 1986).

After establishing and leading the Baruch Center for six years — including the entry-level and advanced physical therapy programs and the Department of Physical Medicine — a family member became ill in 1951, and Dr. Hellebrandt returned to Chicago. She accepted the position as head of the Department of Physical Medicine and Rehabilitation at the University of Illinois College of Medicine.

In 1986, an article was published about Dr. Hellebrandt in *The Columbus Dispatch*. She was 84, and the newspaper reported that "though she was unsure of vision and gait, she still walked 10 loops through the First Community Village every morning for 30 minutes." It appeared that she practiced what she preached as an exercise physiologist, as she tried to keep her joints limber and her legs strong.

Dr. Hellebrandt died in Ohio February 2, 1992. The American Physiological Society established the Caroline tum Suden/Frances A. Hellebrandt Professional Opportunity Award to encourage young researchers in physiology.

## **Susanne Berthe Hirt, RPT, M.Ed.**

Miss Hirt was born in Germany August 1, 1913, the youngest daughter of Joseph and Dortha Hirsch. She grew up in a Jewish family, "assimilated and proud of its German culture," according to Ruth Shapiro, PT, Class of 2001, who was close to Miss Hirt in her later years. Miss Hirt's father died when she was eight years old, but she persevered and completed high school in 1929. She studied medicine at the University of Berlin and received a pre-medical certificate. Miss Hirt said that she had an excellent teacher of anatomy who inspired



her commitment to that subject. She hoped to become an orthopaedist, but Adolf Hitler forced her, along with other Jewish students, out of the university in 1934. She studied medicine for two semesters at the University of Vienna in Austria, and then enrolled in a two-year course in physical education and gymnastics. Gymnastics in Germany and Austria was focused on developing a sense of your body and promoted work with children with cerebral palsy.

Hitler came to Vienna in March 1938, and the Jewish people fled again. Miss Hirt was able to take the train to Ankara, Turkey, to take care of the three-year-old son of a family friend while the mother traveled to the United States to earn her medical diploma. Miss Hirt's mother died in a concentration camp in Riga, Latvia, in 1942. Her sister, Margarete, found her way to England, where she earned a degree in social work and worked in an orphanage in London during the war. After six months, the mother that Miss Hirt was working for sent for the family and Miss Hirt, so she traveled to Baltimore and Washington, D.C. The host family's father forced her to "change her name from Hirsch to Hirt because he did not want the world to know that he was Jewish" (according to her obituary).

Some friends encouraged Miss Hirt to help at the veteran's hospital in Washington, D.C., where she had her first exposure to the profession of physical therapy. The hospital sent her to talk with Col. Emma Vogel, RPT, first chief of the Women's Medical Specialist Corps, at Walter Reed Hospital, who helped Miss Hirt find a physical therapy program (University of Wisconsin) that would allow her to enter based on her medical background and take the courses without payment. She had the good fortune to be there at the same time as Sister Elizabeth Kenny, an Australian nurse well known for her treatment of polio.

Miss Hirt received a certificate in physical therapy in 1942, was inducted into Phi Beta Kappa and became an American citizen. She worked as a staff physical therapist at the University of Wisconsin General Hospital immediately after graduation, and her teaching talents became apparent to Dr. Hellebrandt, then director of the physical therapy school. She hired Miss Hirt as an instructor of anatomy and pathology from 1943 to 1945.

Dr. Hellebrandt was recruited by MCV in 1944, and asked Miss Hirt to come to Richmond to supervise the polio clinics at the college and teach anatomy. Early in 1948, Miss Hirt returned to the University of Wisconsin to finish her bachelor's degree. During midterm exams, Dr. Hellebrandt sent a telegram which said, "Have exhausted all likely





*Fig. 2.13: Frances A. Hellebrandt, M.D., circa 1946*



*Fig. 2.14: Susanne B. Hirt, RPT, M.Ed., circa 1981*



*Fig. 2.15: Susanne B. Hirt, RPT, M.Ed., teaching anatomy in one of the South Hospital classrooms, circa 1948*



*Fig. 2.16: Susanne B. Hirt, RPT, M.Ed., teaching musculoskeletal anatomy to the Class of 1948*

and potentially promising possibilities for technical director of the school — wire if you accept.” In her oral history (Smith, 2000), Miss Hirt replied to the request, “I’m not a leader. I’m just a therapist and hands-on anatomist.” But typical in general for a physical therapist, and specifically for the generous nature of Miss Hirt, she would help out in an emergency.

Miss Hirt returned to Richmond in July 1948, at the age of 35, to become the technical director of what was then the School of Physical Therapy. Her job description indicated that she was hired “to assist in the development of the educational program of the Baruch Center of Physical Medicine, especially in the technical training field; to assist in the clinical research program; to serve as a technician in the physical therapy clinic of the Medical College of Virginia. Specific duties: teach 210 hours of applied anatomy in the undergraduate physical therapy technician training program; teach living anatomy to graduate students; assist in the teaching of pathological kinesiology, disability evaluation, goniometry, manual muscle testing, and Kenny muscle re-education procedures. Time not occupied with teaching or research will be devoted to routine service in the clinic.”

Miss Hirt was promoted to associate professor in 1952 and professor in 1962. She completed her Master of Education degree at the University of Virginia in 1956. In 1969, with the creation of the Department of Physical Therapy in the newly formed VCU School of Allied Health Professions, Miss Hirt became department chair and held the position until her retirement in 1982.

Miss Hirt was a born teacher. She knew her subject well and employed methods that are now being taught in classes on effective teaching strategies. Nancy C. Flowers, PT, M.D., of the Class of 1952, wrote that the anatomy taught by Miss Hirt was “superior to any taught to me subsequently in medical school and is far better than the skimpy courses taught now in the medical schools. . . . Miss Hirt was a skilled motivator and every class she taught grabbed and held your interest.”

Lisa Donegan Shoaf, PT, of the Class of 1981, reported that Miss Hirt didn’t need notes but could speak for the entire time in a logical progression. She constantly walked up and down the aisles and back and forth through the classroom, and she would suddenly turn around and address a question to the student who happened to be in front of her. So, the students were always following what was being said, developing the ability to think through problems.

Kathy Brannan Arle, PT, of the Class of 1970, reminisced, “She always seemed to know when you *really* needed her to call on someone



else — and then she inevitably called on you. Not only was I terrified that I'd embarrass myself by giving the wrong answer, I didn't want to disappoint her."

Miss Hirt used examples that were familiar to most of the students in the class. For example, she said that the peripheral nervous system was a continuation of the central nervous system just like Monument Avenue was a continuation of Franklin Street. She illustrated the topics on the blackboards, always using the same colors of chalk for the nerves, blood vessels, muscles, etc. She required the students to obtain colored pencils so that they could take notes in the same colors, and even required that they use the same colors on their examinations. The students of 1979 wrote one of her sayings in their scrapbook, "It doesn't matter how you draw it as long as it's right." Mrs. Arle also remarked on Miss Hirt's focus on individual students. She said, "During my final affiliation at U.Va., I learned so much but was strongly criticized because I was too quiet. They didn't think I'd be a good PT because of that and when I returned to MCV, I wasn't sure what would happen next. Miss Hirt talked to me alone and gently told me she thought I'd be just fine, that being quieter was just who I was. She was so kind and I have remembered her kindness with love and thankfulness since that day."

In Miss Hirt's address to alumni in 1965, she concluded, "We have learned that change as element of growth is welcome, and we have learned that we as teachers must pursue excellence if we wish to instill this desire in our students. Our school — as it is today — is the product of its combined faculties, academic and clinical, as they function as individuals as well as in a team. Our alumni, however, are the product of what they were able to accomplish through their own efforts, initiative and dedication to their profession. We are very proud of our alumni."

This remarkable lady consistently supported and served the American Physical Therapy Association (APTA) through four decades of professional activity. She was president of the Virginia Physical Therapy Association (VPTA) from 1951 to 1953 and director of the APTA from 1956 to 1960. The VPTA was incorporated in the state of Virginia February 25, 1953. Officers listed on the incorporation papers were Susanne Hirt, VPTA president; Ruth M. Latimer, RPT, M.S.; Sara Jane Smith, RPT; Ruth Brown, RPT; Hilda Maniera Traina, RPT, M.A.; and Ellen Baab, RPT. Miss Latimer followed in Miss Hirt's footsteps, serving as VPTA president from 1953 to 1955.

In these capacities, Miss Hirt constantly demonstrated her commitment to the highest standards of clinical practice and education. She kept the program at the cutting edge of physical therapy



education, moving it from a certificate to a bachelor's degree program and facilitating the movement to a post-baccalaureate level. Her search for professional ideals led her to serve numerous times as Virginia delegate and chief delegate at the Annual House of Delegates of the APTA. For her contributions to the profession of physical therapy, the APTA named her recipient of the 1981 Mary McMillan Lecture Award, the highest honor that the profession of physical therapy bestows upon an individual. Miss Hirt said in her lecture, "We believe the time has come for us to take our destiny into our own hands and to bring about those changes that will be needed in order to upgrade our profession and to alter our professional image. ... Perhaps, at this time, the greatest value of our educational mandate lies in the fact that we stated clearly that our educational system must not remain static" (Hirt, 1981).

After retiring in 1982, Miss Hirt attended world conferences and courses given in Richmond and Australia by Moshe Feldenkrais. In 1989, she became one of the first to teach the Feldenkrais Method of human movement in Richmond and started a Feldenkrais exercise class for senior citizens at the Shepherd Center. In 1984, Miss Hirt was named one of ten Outstanding Women of Greater Richmond by the YWCA. She saw patients until she was 89.

Miss Hirt concluded her oral history with the simple advice, "Get together and share. Understand the basic phenomena of the human body, hands on. Whatever modern techniques we have are really secondary. The bottom line is that I am not just a therapist, I am a living human body, just as my client is a living human body. We can — and should — understand each other on that most basic level" (Smith, 2000).

Miss Hirt's sister, Margarete, lived with her after retirement and attended MCV functions with her. Both were proud of their Jewish heritage and were founding members of the Congregation Or Ami in Richmond. Miss Hirt died in her sleep September 17, 2006. She was 93 years old.

## Herbert W. Park, M.D.

After Dr. Hellebrandt, director of the Baruch Center, left for Chicago in summer 1951, Dr. Sanger, president of MCV, recruited Herbert W. Park, M.D., from the Woodrow Wilson Rehabilitation Center in Fishersville, Virginia. He was a physical medicine and rehabilitation graduate from the Massachusetts Institute of Technology.

Dr. Park noted that Dr. Hellebrandt had collected and analyzed water



*Fig. 2.17: Susanne B. Hirt, RPT, M.Ed., (right) instructing physical therapy students in 1968*



*Fig. 2.18: Herbert W. Park, M.D., 1951*



*Fig. 2.19: Polio patient in parallel bars in the 16th-floor gym in West Hospital, circa 1947*



*Fig. 2.20: Physical Therapy Training School, Baruch Center of Physical Medicine, Class of 1948-49*



from health spas from all over the United States and Europe and said that he “was never aware of any health significance resulting from this aspect of Dr. Hellebrandt’s research programs.”

His office was located on the first floor of Memorial Hospital, later South Hospital, on the southeast corner of 12th and Broad Streets. Dr. Sanger appointed him professor and chairman of the Department of Physical Medicine and Rehabilitation and medical director of the School of Physical Therapy. He instituted a program of medical lectures for the students in the physical therapy school; opened an outpatient clinic for individuals being treated in physical therapy and/or occupational therapy; opened brace and limb clinics for adults and children, as well as a cerebral palsy clinic; and established a lecture-patient demonstration program for first-year medical students to supplement the course in gross anatomy. Miss Hirt, former chair of the Department of Physical Therapy, said that he was an enthusiastic clinical teacher and introduced students to the principles of medical problem-solving.

At the time of Dr. Park’s arrival, the inpatient physical rehabilitation program consisted of twenty-five beds located on the first and second floors of South Hospital. The development of physical rehabilitation was in part fostered by a late polio epidemic. According to *A Summer Without Children* (Logan, 2006), “the worst per capita polio outbreak in the United States occurred in the summer of 1950 in Wythe County, Virginia.” There were 184 cases among the 5,550 people in Wytheville, and seventeen of those individuals died. Many of the affected children had spent time in the iron lung and had painful, paralyzed muscles. The National Foundation for Infantile Paralysis helped pay for physical therapy, braces, footboards and medications between 1950 and 1957.

Many of the students in the physical therapy program during those years learned the art and science of muscle testing, and the prevention and treatment of muscle contractures. Other children growing up during that time were inspired by the health profession called physical therapy. The inpatient rehabilitation program moved across Broad Street to the second and third floors of West Hospital in 1983, and finally to the first and second floors of North Hospital in 1987.

## Student life

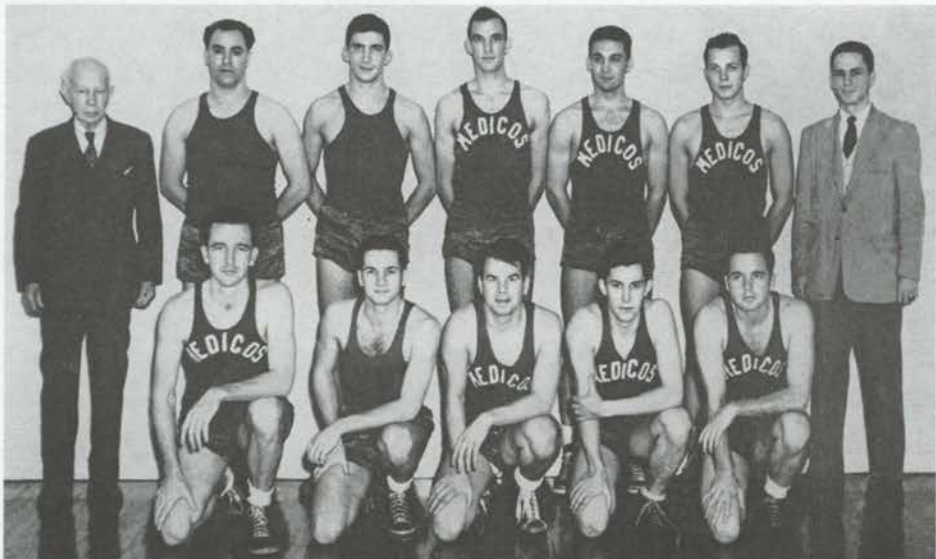
In the 1940s, many of the male students were veterans of World War II. As a result, they were serious students with life experiences



*Fig. 2.21: First Baptist Church, circa 1941, now Hunton Student Center*



*Fig. 2.22: Charles "Smitty" Smith, Class of 1949*



*Fig. 2.23 : Dave Pechman, Class of 1949 (far right), coach of the MCV basketball team, the Medicos*



that added to their maturity. Many of the students were married. Television had just been introduced and many saw it first while students at MCV. In 1938, MCV purchased the old First Baptist Church building for use as the student union building. Located on the corner of 12th and Broad Streets, diagonally across the street from Memorial Hospital, the building housed a branch post office, a branch of the Bank of Virginia and the Campus Room for dining.

The students studied at the old church, ate lunches, practiced for practical exams, played pinochle and ping-pong and formed social circles. Unfortunately, they froze in the winter and roasted in the summer without an adequate heating and cooling system. (This building was renamed the Hunton Student Center after Eppa Hunton, Jr. a lawyer-railroad executive who served on the MCV Board of Visitors for more than a decade. The building has been refurbished for more comfortable study areas, computer access, eating and relaxing.)

In the clinic, at that time, the men wore short white jackets, white pants and white shoes. The women wore nurse attire except women from India, who wore saris.

Alumnus Charles "Smitty" Smith remembered, "There were a number of women from foreign countries — India, Israel, Holland, Puerto Rico, Panama Canal — and there were some Yankees also but we refused to recognize them."

Alumni talk respectfully of the faculty, particularly of Dr. Fischer and Miss Hirt. Mr. Smith described Dr. Fischer as very pleasant. "He took it personally if you had a problem," said Mr. Smith, who graduated in 1949 and was still practicing physical therapy in 2010.

When he first graduated, there was only a registry of physical therapists and the title behind the name was RPT. "When we finally got licensure passed about seven years later, I was president of the VPTA (from 1955 to 1957). My license number was 5. We got all the advisers together to write the questions for the exam. Miss Hirt said, 'Smitty, you write the physics questions.' We had to grade our part of the exam (about thirty to forty exams per year), and we had to be able to defend in court the questions that were asked. Everybody was already practicing. I would rotate off the licensing board and then be appointed again. This went on about twenty years. Now the accepted designation is PT and everyone must be licensed to practice physical therapy." People like Miss Hirt and Mr. Smith progressed through all three designations.

"I took my clinical training up in Washington, D.C., where we stayed in the old Egyptian embassy," Mr. Smith said. "Then I went to Woodrow

Wilson Rehabilitation Center where Josephine J. Buchanan was the supervisor. She had been a PT and then she went back and got her medical doctorate. She was a disciple of Hellebrandt. She was about five feet tall and wide. ... They used to have meetings of the VPTA almost every month in Richmond and the road wasn't that easy. But I would come because I was very interested in talking about this, that and the other with other physical therapists. You'd be surprised at the therapists that would come together. There was a blind physical therapist that would come from Charlottesville with his wife who was pregnant. I think he was grandfathered in to the licensure. He had worked as a rehabilitation therapist and primarily worked with massage in Charlottesville. His wife would bring him to the meetings. He was a veteran of the first world war and we were 'throw backs' from the second. He was very interested in what we were saying. It wasn't until 1959 that there was a law that said you had to be trained to be a physical therapist."



### CHAPTER 3

# The growth of a profession, 1952-1960

Betty Landen, PT, graduate from the Class of 1953, wrote, "There were several things that caught one's attention immediately upon starting the physical therapy program at the Medical College of Virginia. First was Sue Hirt, who could put the fear of God in you with just one look; second was the Pit which was awesome, intimidating, and had seating that did not lend itself to ease of note taking or sleeping during lectures! Then there was our first introduction to the anatomy lab, which was not for the faint of heart, and Dr. Fischer's 'VOT ARE YOU DOING?' that quickly got everyone's attention when someone goofed in physiology. Mrs. Trainer's massage class was interesting, especially the first time we had to give back massages to our male partners starting with pulling down their pants to expose the buttocks."

On February 5, 1954, William T. Sanger, M.D., president of MCV from 1925 to 1955, endorsed the request from department chairman and associate professor Susanne B. Hirt, RPT, M.Ed., to expand the baccalaureate program in physical therapy at MCV from one year to two years. Miss Hirt credited her capable assistant technical director, Margot Trimble, with maintaining the schedule for the different groups of students. She said, "Margot told me she just loved to solve little tricky problems like that — and that was the reason that students and faculty survived."



*Fig. 3.1: Faculty member Alfred Szumski, PT, Ph.D., circa 1960, who served as president of the Virginia Physical Therapy Association from 1957 to 1959*



*Fig. 3.2: Jean Thibaut, RPT, circa 1953*



*Fig. 3.3: Ann VanSant, PT, Ph.D., FAPTA, 1980*



*Fig. 3.4: Steven Gudas, PT, Ph.D., 1980*



*Fig. 3.5: Nora Donohue, PT, M.S., 1984*



The twelve-month certificate course was discontinued a year later, though Dr. Sanger warned that there might be a drop in enrollment for the next ten years. Instead, the program had no trouble filling its classes.

## **B.S. in physical therapy**

The two-year program led to a Bachelor of Science degree in physical therapy. The students began the program with at least two years of college and with at least a grade of C in all required courses. The prerequisite courses were somewhat similar to those required today, except that a year of foreign language was necessary. The bulletin described the traditional program that had been established by Miss Hirt (professor of anatomy) and Frances A. Hellebrandt, M.D., Baruch Center director, before Dr. Hellebrandt moved back to Chicago, "Instruction in application of physical therapy techniques follows extensive study of basic and applied sciences."

Most of today's students would recognize the courses except for "Thermotherapy and Actinotherapy." Actinotherapy is the therapeutic use of radiant energy. Students were assigned to affiliated clinical training centers or to one of the clinics at the college for a minimum of six weeks between their junior and senior year allowing for about eight weeks of summer vacation. At the completion of their senior year, students were assigned for a period of three months of clinical training. Successful completion of the clinical training periods was judged by the clinical supervisors as well as the program faculty. Graduates were eligible for registration in the state of Virginia and in all other states that regulated the practice of physical therapy.

## **Faculty**

The primary physical therapy faculty in 1958 included Miss Hirt; Carlton Jones, PT, M.A.; Alfred Szumski, PT, Ph.D.; Jean Thibaut, RPT; and Margot Trimble, RPT. The program was located on the third and fourth floors of South Hospital at MCV. The centrally located amphitheatre (nicknamed the Snake Pit) continued to be used until the program was moved to McGuire Hall in 1985. As the faculty expanded, the offices of assistant professor Otto Payton, PT, Ph.D., FAPTA, and Miss Hirt were located behind the amphitheater. Offices

for faculty members Robert Lamb, PT, Ph.D., FAPTA, and Roberta Newton, PT, Ph.D., were located close to the graduate research laboratory on the east end of the third floor. Faculty members Ann VanSant, PT, Ph.D., FAPTA; Steven Gudas, PT, Ph.D.; Marianne "Mac" McDonald, PT; and Walter Personius, PT, Ph.D., had offices on the west end of that floor. Nora Donohue, PT, M.S., the academic coordinator of clinical education, had her office on the fourth floor.

### **Carlton L. Jones, PT, M.A.**

Mr. Jones earned his bachelor's degree from Virginia State College in 1936. He joined the Army and served from 1942 to 1946. Mr. Jones earned his certificate in physical therapy in 1949 and his M.A. in education in 1951 from New York University. He returned to Richmond to work in the physical therapy clinic at MCV though the opportunities for black health care workers were limited, according to Dr. Gudas, associate professor in the Department of Anatomy and Neurobiology.

Initially, Miss Hirt hired him to teach at the physical therapy school on an adjunct basis, while he practiced in the polio clinic. Miss Hirt said in her 1965 alumni address, "In 1954, we badly needed more faculty and particularly the kind that can skillfully combine classroom and clinical teaching. I did not have to look very far to find just the right person. Carlton Jones was on our clinic staff. I knew him well and we needed him. ... This was the beginning of a long and warm professional relationship. The contributions Carlton has made to our program as teacher, advisor, student counselor, and member and chairman of committees are unique and outstanding."

Miss Hirt transferred Mr. Jones from physical therapy instructor and supervisor to full-time assistant professor in physical therapy in 1954, and promoted him to associate professor in 1963. His areas of expertise were muscle testing, hydrotherapy, therapeutic exercise, rehabilitation, and prosthetics and orthotics. The students wrote in the 1964 yearbook that he was "a warm friend and an inspiring teacher. As we enter the field of physical therapy we shall remember him for his patience, understanding, and dedication to the profession."

Kathy Brannan Arle, PT, of the Class of 1970, remarked, "I was never sure at the time what I was doing in his class but throughout my career I seemed to remember his words, his smile and his demonstrations. He was a gentle soul."



Mr. Jones recognized the importance of clinical education in the development of physical therapists and, upon his retirement in 1979, established the Carlton Jones Clinical Education Award. When Miss Hirt recommended him for the first professor emeritus from the department, she wrote, "His reputation as a warm, compassionate person and teacher and as a superb clinician and clinical educator is known nationwide. He is respected, admired and loved by the almost 1,000 physical therapists who benefited from his knowledge, his humanness and his priceless sense of humor."

Mr. Jones continued to work part time after his retirement as a clinical physical therapist until his death May 7, 1991.

## **Marianne "Mac" McDonald, PT**

Miss Hirt wrote, "In 1964, we were again looking for faculty and someone told me that Marianne McDonald was working at the VA Hospital, was a teacher at heart, and would not mind coming back to her Alma Mater. The Functional Anatomy course, which Mac developed over the years, has become a symbol of our program. The impact Mac made on generations of physical therapy students culminated when she was presented at the 1983 APTA national conference in Kansas City with the Dorothy Baethke/Eleanor J. Carlin Award for Teaching Excellence."

Miss McDonald graduated with a bachelor's degree in physical education from the Woman's College at the University of North Carolina in 1954. She came to MCV and graduated with a B.S. in physical therapy in 1958. As Miss Hirt pointed out, Miss McDonald worked for eight years at the VA before returning to MCV to teach anatomy, therapeutic exercise and evaluation procedures. She also lectured in medicine and nurse anesthesia, giving a functional anatomy perspective that was lacking in its anatomy course. She co-chaired the admissions committee and served on the undergraduate curriculum committee and the Physical Therapy Advisory Committee to the State Board of Medicine. Miss McDonald also served as president of the VPTA from 1970 to 1971.

She is remembered most vividly for her ability to teach and her sincere, warm attitude. Students remarked that she "possesses an exceptional ability for promoting in her students a sincere desire and enthusiasm for wanting to learn, and perhaps more importantly, for wanting to grow and change. ... There is magic in Mac's classes. Mac's stringent



*Fig. 3.6: Carlton L. Jones, PT, M.A., circa 1958*



*Fig. 3.7: Carlton L. Jones, PT, M.A., in the classroom, circa 1964*



*Fig. 3.8: Carlton L. Jones, PT, M.A., demonstrating massage in the surgical amphitheatre (nicknamed the "Snake Pit"), circa 1950*



*Fig. 3.9: Marianne "Mac" McDonald, PT, 1992*



*Fig. 3.10: Marianne "Mac" McDonald, PT, teaching functional anatomy, 1992*



demands for the very best performance each student is capable of are mixed with an irresistible sense of humor and a sincere affection for each student as an individual human being.”

Miss McDonald retired in 1992 after twenty-eight years of teaching and inspiring students.

The Marianne E. “Mac” McDonald Award was instituted in 1991. Each year, students elect a fellow student for the award who demonstrates an unselfish commitment to assisting other students — both academically and personally — has a caring and supportive influence on other members of the class and has the personal qualities necessary to succeed in physical therapy.

### Frederick Vultee, M.D.

In 1959, Herbert Park, M.D., resigned from the positions of medical director of the physical therapy school and chairman of the Department of Physical Medicine and Rehabilitation, and Frederick Vultee, M.D., from the Rehabilitation Institute of Chicago, took his place. Dr. Vultee was a nationally recognized authority in prosthetics and orthotics. He published his research and prosthetic training protocols in the *Southern Medical Journal* and the *Journal of Bone and Joint Surgery*.

Miss Hirt wrote, “Dr. Vultee’s sense of humor made his classroom teaching unforgettable.” Dr. Vultee died of a heart attack in December 1962 at the age of thirty-seven, after only three years at MCV.

### Shirley Stockmeyer, PT, M.A.

In 1966, the Northwestern University Special Therapeutic Exercise Project, or NUSTEP, was established. NUSTEP was an important collaborative professional work by 114 physical therapy educators from forty-four American programs and eight Canadian programs that had a significant and lasting effect on physical therapy education. Miss Hirt said, “One of the five main expositors of NUSTEP was Shirley Stockmeyer, who was a member of our faculty at the time. Shirley, clearly, was one of the first clinical specialists in child neurology.”

Miss Stockmeyer became coordinator of the Richmond Cerebral Palsy Center, which was an ideal learning setting for students. The students wrote in the 1965 yearbook, “You have instilled within us a sense of pride and responsibility in our future roles as



Fig. 3.11: Frederick Vultee, M.D., circa 1962



Fig. 3.12: Shirley Stockmeyer, PT, M.A., circa 1965



Fig. 3.13: Physical therapy technician shoulder patch, in use from 1944-1955



Fig. 3.14: Betty Ruth Landen, PT, Ph.D., Class of 1953



Fig. 3.15: Nancy Flowers, PT, M.D., Class of 1952



Fig. 3.16: Terry Wise, LPT, in his home, circa 1982



physical therapists by your dedication to the profession and your constant challenge in meeting the highest standards. You have created within us a respect for accurate and safe techniques by your devotion in working with us to develop our skills and minds.”

Miss Stockmeyer left MCV in 1967 to advance her professional education.

## Student life

The 1958-60 School of Physical Therapy Bulletin provides information about living expenses for prospective students: “All single students except those residing with parents or relatives in the immediate vicinity are housed in dormitories.” Nine-month accommodations in a double room were \$261 for men, \$225 for women. However, in reality, most of the students either lived with their parents or shared apartments, same as today. The average cost of meals from the hospital cafeteria or local restaurants was \$550-\$600 for nine months. Parking was free. Tuition was \$500 for in-state students and \$700 for out-of-state students. Textbooks cost approximately \$110 for the entire two years; uniforms and white shoes cost about \$50. At that time, there was a student loan fund named in memory of Rachel M. Whipple, who graduated and served as a physical therapist in the MCV clinic from 1941 to 1953. Scholarship funds were also available through the National Foundation for Infantile Paralysis for both junior and senior years.

Many of the graduates in the 1950s treated patients with polio. Betty Landen, PT, Ph.D., wrote that, after graduation in 1953, her physical therapy classmates, Alice Bredyhoff, Pauline Daniels, Jackie Maiden and Elaine Moore joined her at Warm Springs, Georgia, “where we spent six months learning how to evaluate and treat polio patients, and another nine months as staff therapists. My classmates left after fifteen months, but I stayed on treating patients and teaching for another five years. En route home to Massachusetts in 1955, I stopped in Richmond to visit with Sue Hirt and some of my other former teachers. Sue had a muscle testing class after lunch and invited me to go with her to the ‘Pit’ to meet the current class of students. After introducing me to the class, she told them that I was teaching muscle testing at Warm Springs so she’d let them learn from an expert. With that, she smiled at me and walked

out. I have no idea how long she left me there looking up and talking to a blur of expectant faces, but we all survived, and Sue eventually came back to rescue them — and me.”

In 1958, Dr. Landen was commissioned a “1st Lieutenant in the Army Reserves, and in 1959 went on active duty to try it out for ‘a couple of years.’ Twenty-two great years and two graduate degrees later, I retired as a full Colonel and Director of the Army-Baylor Program in Physical Therapy. I took some time off to unwind before accepting the position as Professor and Chair of the Department of Physical Therapy at the University of Texas Medical Branch in Galveston. ... My MCV education provided me with the initial skills that I needed as a clinician, but Sue Hirt and later Stanford’s Helen Blood influenced me in other ways as well. They fostered my love of learning, helped point me toward academia and encouraged me in service to my profession.”

Nancy Flowers, PT, M.D., graduated in 1952 and “went directly to Vicksburg, Mississippi, and worked in the last big polio epidemic at that center for polio patients at Lutheran Hospital. I continued to work as a PT in Clarksdale, Mississippi, after the epidemic quieted down, decided to go to medical school, made up the few premedical credits I lacked and entered medical school in January 1955.” She ended up practicing as a cardiologist along with her husband at the Medical College of Georgia and the University of Louisville.

Terry Wise, LPT, was a graduate with the Class of 1963. After graduation, he moved to the Washington, D.C., area, where he worked at George Washington University Hospital in Washington and at Holy Cross Hospital in Silver Spring, Maryland. Finally, he became interested in working in nursing homes and in home care as he realized he had a concern and talent for working with the elderly and chronically ill. He became a respected and well-loved private practitioner. He died in 1982 of a pulmonary embolism after an accidental fall on his farm in Bushwood, Maryland. His peers and friends established the Terry Wise Memorial Scholarship. When the students are in their final clinical rotations, the clinical supervisors nominate candidates for this award, according to outstanding clinical competence as shown by his or her performance beyond normal expectations in the clinic.



## CHAPTER 4

# VCU and the M.S. in Physical Therapy, 1969-1998

In 1945, Richmond Professional Institute was responsible for the pre-professional training of candidates for the B.S. degree in the medical sciences. The Medical College of Virginia assumed full responsibility for the professional year of the physical therapy curriculum. In 1954, the physical therapy format changed so that students could take the first two years of courses (including prerequisites) at RPI or another university, and the last two years at MCV to earn their bachelor's degree.

On July 1, 1968, the Virginia General Assembly combined the foundations of RPI and MCV to create Virginia Commonwealth University. In 1969, the School of Allied Health Professions was established and the School of Physical Therapy became the Department of Physical Therapy within the new school on the MCV Campus of VCU. Since its inception, the School of Allied Health Professions has maintained an excellent standing among such schools. Thomas C. Barker, Ph.D., became the first dean of the School of Allied Health Professions after serving as chair of the School of Hospital and Health Administration (now the Department of Health Administration) the previous two years.

Following the national trend, other departments in the school included Hospital Administration (changed to Health Administration in 1972), Medical Technology and Radiation Sciences. Susanne Hirt,

RPT, M.Ed., became chair of the Department of Physical Therapy, and Otto Payton, PT, Ph.D., FAPTA, became director of the graduate division of the department.

The advanced Master of Science program was reinstated through federal traineeships made available through allied health manpower legislation. There were many physical therapists who came through that division to earn an advanced master's degree. The following are examples of the theses written between 1970 and 2001:

Marty Clendenin: "Influence of the cutaneous application of ice on isolation and control of single motor units in humans," 1970.

Yu-Ying Liu Han: "Influence of continuous and pulsed ultrasound on scar tissue in rats," 1973.

Matilda Selle: "The use of an electrogoniometer as a training device in knee motion," 1974.

Gad Alon: "Changes in integrated electrical activity of selected muscle groups around the hip joint during skill acquisition," 1975.

Steven Gudas: "Metastatic patterns and functional disability in disseminated breast carcinoma," 1975.

Ann VanSant: "The relationship between standing posture and equilibrium abilities of the spastic cerebral palsied child," 1976.

Damien Howell: "Investigation of the relationship between exercise and Type A behavior as defined by Morris Friedman," 1977.

Daniel Kahsar: "The effects of semi-rigid ankle orthoses on selected gross motor skills," 1978.

Paul Beattie: "The reliability of the attraction method of measuring spinal backward bending," 1985.



Suzanne Seay: "Illness behavior questionnaire as a predictor of problematic and aproblematic patients with a painful upper extremity," 1986.

Annabel Lewis: "Age-related differences in component action during rolling in children," 1987.

Martha Walker: "A photographic method for describing posture," 1987.

Philip McClure: "Inter-tester reliability of clinical tests for medial knee ligament integrity," 1987.

Cheryl Ford-Smith: "Age differences in movement patterns used to rise from a bed: A study of middle adulthood," 1989.

Janet Kues: "A study of the relationships between measurements of muscle performance," 1990.

Kelley Fitzgerald: "Exercise induced soreness after concentric and eccentric isokinetic muscle contractions," 1990.

Kimberly Kothe: "Single point pressure perception: Normative values for the plantar surface of the foot and age related changes," 1993.

Kevin Lawrence: "Alignment of the sacroiliac joints in normal subjects: An intertester reliability study," 1994.

Susan Heald: "The shoulder pain and disability index: The criterion-related validity and responsiveness of a health-related quality of life index," 1996.

Alice Peay: "The effect of static stretching of the ankle on balance of geriatric subjects with range of motion limitations," 2001.

The state wanted South Hospital for the Virginia Department of Transportation in 1985, so the Department of Physical Therapy moved to the second floor of McGuire Hall. The building was named for

Hunter Holmes McGuire, M.D., MCV's first post-Civil War professor of surgery, who was considered to be the world's "leading expert on gunshot wounds of the abdomen." He had a successful medical practice in the latter part of the nineteenth century but became incensed at the lack of coordination of professional schools. So, in 1893, he created a new school, the University College of Medicine, in the former residence of Confederate Vice President Alexander Hamilton Stephens located at 11th and Clay Streets. The college transformed a neighboring residence into a sixty-three-bed hospital, and incorporated dentistry, nursing and pharmacy schools. The building was remodeled after a major fire in 1910 and was named McGuire Hall after the college was united with MCV in 1913. Next door was the Virginia Hospital, which served as the outpatient department until 1938 when the outpatient department moved to the A.D. Williams Clinic. According to the *First 125 Years of the Medical College of Virginia*, "The old hospital building was razed in 1956 to make way for the McGuire Hall Annex" (Hoke, 1963).

At the time of the move from South Hospital to McGuire Hall in the mid-1980s, the faculty included Marianne "Mac" McDonald, PT; Steven Gudas, PT, Ph.D.; Damien Howell, PT, M.S., OCS; Walter Personius, PT, Ph.D.; Ann "Vance" VanSant, PT, Ph.D., FAPTA; Roberta Newton, PT, Ph.D.; Jules Rothstein, PT, Ph.D., FAPTA; Robert Lamb, PT, Ph.D., FAPTA; and Dr. Payton. The Department of Physical Therapy was spread out on the second floor from the Clay Street entrance to the annex. The staircase at the entrance is grand and wide, with a bust of Hunter Holmes McGuire mounted on the first floor landing. When Mary S. Shall, PT, Ph.D., first started teaching in 1991, she came in on the weekend to work on lectures, sometimes accompanied by her husky dog for security. "On the first visit, he sat in front of the McGuire statue, waiting for permission to enter from the lord of the hall," Dr. Shall said. "Finally, he stood up on his hind legs, sniffed the statue for life and moved on up the stairs and down the hall to my office in the annex."

The first office at the top of the stairs (over the front door) was occupied first by Miss McDonald, then Thomas P. Mayhew, PT, Ph.D., who joined the department in 1989. The office was attached to a tiny wet lab for histology research. There was a small classroom next to the stairs with a student lounge accessible through the classroom. Of course, that meant students could only use the lounge at lunch or after class was over, so students were more often found studying in the stairwell at the other end of the building, in another classroom or across the street



in the Tompkins-McCaw Library for the Health Sciences. There was a large classroom in the middle of the second floor with wide wooden tables for studying models and taking notes. The windows looked out on the quadrangle and provided a breeze if there wasn't too much noise to open the windows.

The third classroom/teaching laboratory spanned the width of the second floor of the annex and had a door at both ends. The faculty in the annex could only be accessed by going to a different floor to bypass the classroom. There was a large noisy air conditioner and the windows leaked when it rained. Eugene P. Trani, Ph.D., president of VCU from 1990 to 2009, led the construction of many buildings on the university's two primary campuses. The Ambulatory Care Center was built across the street from McGuire Hall Annex, and it was a trying time to yell a lecture above the sound of pile drivers. At the far west end of the department was a large biomechanics research laboratory, providing space for muscle biopsy and exercise on a Kin-Com or treadmill. Many students donated muscle and energy to those projects. There was also a teaching lab in the basement of the annex.

At the end of the two years of study (before the long clinical internships), the students would usually create and post a sign on each of the professor's doors with humorous anecdotes or embarrassing quotes, letting them know that they would be remembered. One year, the students taped paper to the ceiling, tracing the pain pathway from the large classroom in McGuire, along the corridor, through the laboratory/classroom to the door of Dr. Shall, who taught neuroanatomy. It wasn't clear if the pain pathway reflected their opinion of the course or the professor. But at least they had learned the pathway.

By the second half of the 1980s, the profession was changing again, and Dr. Payton and Dr. Lamb developed the proposal for the entry-level Master of Science degree. While they first proposed the degree in 1985, it didn't gain approval until 1989, and the first class graduated with an M.S. in 1992.

## M.S. in Physical Therapy

In 1990, the two-year program led to a degree of Master of Science in Physical Therapy. The students began the program with at least three years of college (ninety semester hours) and with at least a 2.7 grade-point average. Most of the students came into the program with a bachelor's degree, and the average GPA of the matriculating students was 3.3 or 3.4.

The prerequisite courses expanded to include physics and psychology, all of which had to be finished before admission into the program. The applicant was required to take and submit scores for the Graduate Record Examination. Interviews were not required but many potential applicants called to request an interview with a faculty member. Each faculty member set aside an hour per week for an interview, which interrupted research and teaching preparation but was an effective recruitment tool. The class was made up of forty students until the program was moved to West Hospital when the number expanded to fifty-four students. By this point in the evolution of the physical therapy program, the professional education took three years to complete the ninety-nine credits required. Additional clinical time was added. The students gave oral presentations to their classmates and faculty about patients that they saw in their first and second clinical rotations. The culminating experience was a paper written in the model of a case study for the *Journal of Physical Therapy* that required students to critically analyze the literature and provide support for the treatment given to the patient.

## Faculty

In the mid-1970s, the program needed someone with a background in neurophysiology who understood and could teach therapeutic exercise for the adult and pediatric populations. Dr. Newton had recently earned her doctorate in physiology at VCU (1973) and her B.S. in Physical Therapy (1975).

Miss Hirt said, "I was fascinated and delighted with this combination of degrees and knew we could make good use of Roberta. Ann "Vance" VanSant, was a student in our master's program and was eager to share her physical therapy expertise in neurophysiological approaches to therapeutic exercise."

With assistant professor Dr. Payton's experience in grant writing, Miss VanSant and Dr. Newton garnered a five-year federal grant that culminated in the publication of *Therapeutic Exercise Competencies for Entry Level Physical Therapists and Therapeutic Exercise Instructors* in 1980. This manual was an important milestone in the effort to identify physical therapy as a unique profession nationally and internationally.

Dr. Gudas came to VCU to earn an advanced Master of Science degree in physical therapy under the mentorship of Dr. Payton. When he arrived in Richmond in the summer of 1974, he joined eleven other



physical therapists in the advanced master's degree program at VCU. Dr. Gudas joined the physical therapy faculty in 1978 to teach management, modalities, rehabilitation I, medical lectures, prosthetics and orthotics, and rehabilitation II. In 1988, he left the physical therapy program to work on his doctoral studies under Milton Sholley, Ph.D., in the VCU anatomy department. Throughout his career, Dr. Gudas has followed his interest in the rehabilitation potential of the severely and terminally ill patient. The Steven Gudas Award for Outstanding Publication in Rehabilitation Oncology was established by the oncology section of the APTA to recognize those persons whose publication in the section's journal, *Rehabilitation Oncology*, has resulted in advancement of the practice of oncology physical therapy.

Nora Donohue, PT, M.S., completed the undergraduate physical therapy program at the University of Pennsylvania and graduated from VCU's advanced master's degree program. She served as the academic coordinator of clinical education from 1980 to 1992. In her 1980 address to alumni, Miss Hirt said, "There are intrinsic, invisible demands which require untiring attention to the basic human needs of administrators, clinicians and, above all, students. Nora functions as the catalyst, assisting students in developing professional and personal skills in harmony with the demands of their new profession. This delicate job often makes the ACCE the 'unsung hero of our profession.'"

Miss Hirt retired August 1, 1982, relinquishing the chairman's reins to Dr. Payton. Dr. Lamb became the director of the graduate program. These were very busy times in both the entry-level and graduate programs. Joint doctoral programs were established with the physiology and anatomy departments with the first doctoral candidate, Joseph P. Sorg, admitted to the anatomy/physical therapy Ph.D. program in 1982. Dr. Rothstein joined the faculty in time for the spring semester in 1983. He mentored numerous graduate and professional students before leaving for Chicago in 1990.

Dr. Lamb became the acting chairman of the Department of Physical Therapy in 1987, with Miss McDonald as assistant chair. Dr. Lamb continued the same principle that Dr. Hellebrandt had coined forty years previously: "Problem solving, or training the mind to the truth, is inordinately important to those who practice either the medical or technical aspects of physical therapy." It became clear that the breadth of effective physical therapy was demanding a wide range of courses from pediatrics to geriatrics, studying all of the body's systems to integrate and understand their interaction.

During this time of program degree transition, there was also an expansion and transition of faculty. Dr. Newton moved to Temple University; Dr. Gudas moved to the Department of Anatomy to earn his Ph.D., and to the cancer center for clinical work; Mr. Howell opened a private practice; Dr. Personius left for Shenandoah University; Miss McDonald retired in 1992; and Dr. Rothstein left in 1990 to chair the department at the University of Chicago at Illinois, and to dedicate more time as the editor of the *Physical Therapy* journal. Joining the faculty were Daniel Riddle, PT, Ph.D., FAPTA, in 1986; Annabel Lewis, PT, M.S., and Dr. Mayhew in 1989; and Sheryl Finucane, PT, Ph.D., Dr. Shall, Janet Kues, PT, M.S., and Scott Sullivan, PT, Ph.D., in 1990. In 1992, Miss Donohue left to work in the clinic, and Lisa Shoaf, PT, D.P.T., Ph.D., joined the faculty as the ACCE. Emma Wheeler, PT, D.P.T., M.S., joined the faculty in 1997 to assist Dr. Shoaf and teach other courses. Peter Pidcoe, PT, D.P.T., Ph.D., merged bioengineering with kinesiology when he joined the faculty in 1998.

Several staff members have been remarkably loyal to the department and should be recognized for their contribution over the years as administrative support in the department. Nancy Knowles (1960-98), Laura Spittle (1975-2007) and Judy Kendrick (since 1996) kept the program alive and running smoothly. Ray Blake joined the staff in 1994, as it became apparent that the department needed someone to support computer technology for the faculty members and students.

It also became clear during this time that more universities were requiring doctoral degrees for faculty and the advanced master's degree was less attractive. The department focused its efforts on the doctoral programs. School of Allied Health Professions Dean Barker retired. Cecil Drain, Ph.D., CRNA, FAAN, FASAHP, chair of the Department of Nurse Anesthesia, became dean and initiated a distance-learning Ph.D. in Health Related Sciences. The Department of Physical Therapy provided one of the tracks in this program. The next step in doctoral education came in 2004, when the department added the Ph.D. in Rehabilitation and Movement Science in collaboration with the VCU Schools of Medicine and Education. Examples of doctorate theses earned in all of the doctoral programs affiliated with the physical therapy program between 1982 and 2010 are:

Sheryl Finucane: "The effects of eccentric and concentric contractions on intramuscular collagen concentrations," 1991.



Thomas P. Mayhew: "The effects of concentric and eccentric contractions performed at equal power levels on skeletal muscle fiber hypertrophy," 1991.

Desiree Lanzino: "Muscle fiber differentiation after bilabryrinhectomy," 1999.

Thomas Sutlive: "Whole muscle and motor unit mechanical properties of the rat styloglossus muscle," 1999.

Lisa Dehner: "Cross-modal circuitry within the anterior ectosynovial cortex of the cat: Anatomical and functional connections from auditory field AES to somatosensory SIV," 2000.

Ross Arena: "Oxygen uptake kinetics in chronic heart failure: implications for clinical practice," 2001.

Stacy Kinirons: "The effects of an altered activity level, via artificial rearing, on the developing rat tongue retractor," 2002.

Karen Sparrow: "The effects of low intensity ultrasound on medial collateral ligament healing in the rabbit model," 2002.

Todd Telemeco: "Regulation of gelatinases in neonatal cardiac fibroblasts: The interaction between substrate and strain specific signals," 2004.

Michael Tevald: "The effects of chronic myocardial infarction on microvascular oxygen transport in skeletal muscle," 2005.

Martha Walker: "Equity in physical therapy care provided in academic medical centers to patients with stroke," 2005.

Keith Bishop: "Anatomical and physiological characteristics of the ferret lateral rectus muscle and abducens nucleus," 2007.

Evie Burnet: "Frontal plane pelvic drop in runners: Causes and clinical implications," 2008.

Sherry Pinkstaff: "The clinical utility of cardiopulmonary exercise testing in patients with suspected myocardial ischemia," 2009.



*Fig. 4.1: McGuire Hall, circa 1913, named for Dr. Hunter Holmes McGuire. In 1940, a fourth story was added.*



*Fig. 4.2: Robert Lamb, PT, Ph.D., FAPTA, Otto Payton, PT, Ph.D., FAPTA, and Susanne Hirt, PT, M.Ed., circa 1987*



*Fig. 4.3: Otto D. Payton, PT, Ph.D., FAPTA, with Daniel Riddle, PT, Ph.D., FAPTA, at the party naming Dr. Riddle as the Payton Professor of Physical Therapy in January 2005*



Amy Seitz: "Mechanisms of rotator cuff disease: Scapular alterations on subacromial space," 2010.

## Robert L. Lamb, PT, Ph.D., FAPTA

In her 1985 speech to the alumni, Miss Hirt said that the program was "very lucky when Bob Lamb knocked at our door in 1968 and said he wanted to join our faculty 'to learn.' I soon found out there was much we could learn from Bob. When Betty Fellows left to take a position at national headquarters, Bob agreed on the spur of the moment to be our clinical coordinator. Years later Bob is still remembered by his colleagues for having created an innovative and original clinical education program that for the first time brought clinicians and faculty into a productive professional relationship with each other."

Later, Dr. Payton put Dr. Lamb in charge of a rapidly developing and growing kinesiology and biomechanics research lab. One of the original objectives of the Baruch Center was the "addition to human knowledge through the fundamental study of physical agents and how they affect living tissues, and the application of things learned to the alleviation of the suffering of the maimed and the sick" (Hellebrandt, 1948). However, some of the momentum was lost in the effort to educate physical therapists for rehabilitation of war veterans and polio patients. The research lab turned that around as it became the "hallmark of our graduate program and at the same time provided many opportunities to enhance the learning experiences of the undergraduate students," according to Miss Hirt. Dr. Lamb authored thirty-two full-length publications and presented more than thirty-five professional talks. He made important contributions in the area of measurement of musculoskeletal variables and provided extensive mentorship to many who proceeded to establish themselves as distinguished researchers in physical therapy.

Dr. Lamb was promoted to associate professor in 1978 and professor in 1991. In 1981, he had completed his doctoral degree in biomechanics at the University of Maryland. He served as director of graduate studies in the department from 1982 to 1990, including the time he served as assistant chairman in 1986 and acting chairman from 1987 to 1988. Finally, he served as chairman from 1988 until his retirement in 2000. His interest in student preparation for practice placed the VCU Department of Physical Therapy in the forefront of physical therapy education in the United States.

Dr. Lamb was an active member of the American Physical Therapy Association, the Virginia Physical Therapy Association and the local region of the VPTA, and well-known for his willingness to assume leadership roles and provide any assistance that might be needed. In the Virginia chapter, he served as delegate, chief delegate, treasurer, newsletter editor and president (1984-86). He was important to the development, organization and publication of *Physical Therapy*, serving as an abstractor, book reviewer, manuscript reviewer, associate editor, editorial board member, interim editor and interim co-editor. Dr. Lamb received multiple awards honoring his service to the profession and association, including the APTA Lucy Blair Service Award and Golden Pen Award, the VPTA M. Scott Sullivan Leadership Award and VCU's Distinguished Service Award. In addition, he was named a Catherine Worthingham Fellow of the APTA. Dr. Lamb served on more than thirty-five school and university committees, including the Commission on the Future of the University, whose work resulted in a Strategic Plan for the Future of VCU, as well as the University Promotion and Tenure Committee, Graduate Council and Faculty Senate, among many others.

One of Dr. Lamb's outstanding characteristics was his ability to mentor students and colleagues to prepare them to be productive scientists. A student was quoted in the 1998 VCU Convocation program in which Dr. Lamb was honored with the Distinguished Service Award: "It was obvious to me that Dr. Lamb operated with a genuine purpose to validate, improve and advance the profession of physical therapy." He retired from the Department of Physical Therapy in 2000.

## Otto Payton, PT, Ph.D., FAPTA

Miss Hirt, former chair of the physical therapy department, said during her 1985 address to the alumni that she met Dr. Payton at the APTA national conference in 1970 in Washington, D.C., "quite by accident at the banquet. I asked Otto if he would like to come to Richmond to see what we have and don't have. And so Otto became the director of our M.S. degree program in physical therapy in 1971."

Dr. Payton earned his B.S. in physical therapy from the University of Kansas in 1956, his master's degree in education from Indiana University in 1964 and his doctorate in higher education from the University of Maryland in 1971. He was promoted to full professor in physical



therapy in 1976 and served as chairman of the department from 1982 to 1987. He was president of the VPTA from 1980 to 1982, served as chief Virginia delegate, and was an appointed member of the APTA Committee on Graduate Education and an accreditation site visitor.

Dr. Payton was nationally recognized as an outstanding therapist, educator and researcher. Patricia Evans, PT, Ph.D., director of the APTA Department of Educational Affairs in 1975, wrote in her recommendation for his promotion and tenure, "Dr. Payton has brought a sense of objectivity, thoroughness and innovativeness to the Committee. He has consistently sought to bring the Committee into perspective, has encouraged cooperation and communication between the various Association Committees and special interest sections, and has encouraged the development of special projects that have and will be of considerable value to the profession of physical therapy."

Dr. Payton presented numerous papers at both national and international meetings focusing on education and clinical research. His book, *Research: The Validation of Clinical Practice*, has been used for many years as a reference book on research techniques. Dr. Payton also served as an editor of the clinical series *Manual of Physical Therapy*. He was a consultant to the World Health Organization and to physical therapy facilities in Israel. Dr. Payton was awarded APTA's Golden Pen Award in 1981, the Lucy Blair Service Award in 1988 and was recognized as a Catherine Worthingham Fellow of the APTA in 1993.

Dr. Payton's graduate students spoke highly of his teaching methods, fairness and knowledge of research methods. Marjorie Clough earned her advanced Master of Science degree in 1973 and recommended Dr. Payton for promotion in 1974, writing, "The primary characteristics which came to the fore were his energetic and tireless pursuit of true scholarship, his emphasis on quality of effort in his own endeavors and those of his graduate students, and his honesty, openness and genuine concern for the graduate students enrolled in physical therapy."

He was active on many school and university committees, including the University Self-Study in 1971-72. He was chair of the Committee on Graduate Programs, Research and Computer Center. Committee members remarked that he was thorough, fair and very well-organized.

After more than a decade in various administrative roles, including chairman of the Department of Physical Therapy, Dr. Payton returned to full-time teaching and research in July 1987. He retired from the Department of Physical Therapy in 1999.

The Payton Professorship in Physical Therapy was funded by a private donation in November 2004. At VCU, an endowed chair or professorship may be used to reward an individual of exceptional accomplishments who is already on the faculty. In addition to rewarding excellence, an endowed position carries with it the expectation of continuing worthy contributions to his or her specialty area. The criteria of the endowed professorship state, "Every five years each appointment will be reviewed and evaluated for continuation by the Provost or Vice President for Health Sciences as appropriate."

Dr. Riddle was appointed the Payton Professor of Physical Therapy in January 2005.

## Jules M. Rothstein, PT, Ph.D., FAPTA

Dr. Rothstein joined the physical therapy faculty at VCU as an assistant professor in 1984. Prior to joining VCU, he was assistant professor at Washington University in St. Louis. At New York University, he completed his physical therapy training in 1975, his M.A. in kinesiology in 1979 and his Doctor of Philosophy degree in 1983. Dr. Rothstein left VCU in 1990 to become professor and head of the Department of Physical Therapy at the University of Chicago at Illinois. He served as department head until 1999 and then as professor until his untimely death August 27, 2005.

Dr. Rothstein's accolades and accomplishments were many. He was internationally known as an expert in research design and measurement and was an invited speaker in many countries. He served as editor of *Physical Therapy* from 1989 to 2004. He chaired the APTA Task Force on Standards for Tests and Measurements in Physical Therapy Practice in 1993, which led to publication of the *Primer on Measurement: An Introductory Guide to Measurement Issues*, which he co-authored. He was a Mary McMillan lecturer, a Catherine Worthingham Fellow of the APTA and the recipient of numerous other awards, including APTA's Golden Pen Award (renamed the Jules Rothstein Golden Pen Award for Scientific Writing in 2006), the Outstanding Service Award for Research from the Illinois chapter of the APTA and the Outstanding Therapist Award from the state of Illinois.

Comments by Rob Herbert, PT, Ph.D., then-scientific editor of the *Australian Journal of Physiotherapy*, summed up the international community's impressions of Dr. Rothstein at the time of his death in 2005. Dr. Herbert said, "Professor Rothstein's influence on our



profession, even half a world away in Australia, was enormous. His legacy will be that research has been the transition from a purely academic pursuit to a force that changes clinical practice.”

During his tenure at VCU, Dr. Rothstein taught in the entry-level program, the advanced master’s program and the combined anatomy and physical therapy doctoral program. His lectures in microanatomy and neuroanatomy were renowned for their strong content, storytelling and enthusiasm. Dr. Rothstein reached out and grabbed his students’ attention and interest like no other. His lectures are legendary and his grasp of content astounded many. His courses in both the master’s and doctoral programs also were memorable. His courses were extremely difficult and challenged all, no matter their level of understanding. His teaching style was upfront and engaging, and every student in the class was pushed to achieve their best. Former students continually remind the department not only of how difficult Dr. Rothstein’s courses were but also of how much they learned. Similar comments are echoed by many students who come back to visit: “I’m glad that class is over but I learned more valuable information in that class than any other class that I’ve taken.”

The following quote from Dr. Rothstein’s 2001 Mary McMillan lecture is an apt summary of his professional philosophy and one repeatedly heard stated in various ways: “Instead of seeking simple but dubious solutions to patient problems by querying colleagues who may mean well but who have uncertain knowledge, use the literature. Instead of teaching what you were taught as though it was a missing gospel, examine the basis for what you teach and the evidence. Document practice through publication and grow through participation in the peer-review process. Work only in those clinics or educational institutions that are prepared to help us on our professional journey. Accept constructive disagreement so that we can all grow through a challenging process that provides no easy shelter.”

## **M. Scott Sullivan, PT, Ph.D.**

Dr. Sullivan was born on Staten Island, New York, and earned his bachelor’s and Master of Education degrees from the State University of New York at Stony Brook. He specialized in orthopaedics and came to teach musculoskeletal treatment courses at VCU in 1991. While teaching, Dr. Sullivan earned his doctorate in health services organization and research at VCU in 1997, and continued to be interested in

health services research. He received the School of Health Technology and Management Distinguished Alumnus Award from Stony Brook that same year. Dr. Sullivan served the VPTA as treasurer and chapter delegate. He taught, mentored and encouraged countless numbers of students. He could always be counted upon to pose tough questions, challenge the status quo and make students and colleagues look to the future as a challenge. Dr. Sullivan loved spending time with his daughters. He had just accepted the position of director of the department of practice at the APTA in Alexandria, Virginia, where he was to begin full-time in January, when he died of a heart attack on December 14, 1998. He was only thirty-nine. The M. Scott Sullivan Memorial Scholarship was established in his name to be given to two D.P.T. students in good standing academically — one from Virginia, one from out of state — who are financially in need.

## Other faculty members

**Annabel Lewis, PT, M.S.**, joined the faculty after she finished her master's theses under the mentorship of Dr. VanSant to teach pediatrics and neurologic physical therapy. Mrs. Lewis reached out to the community to establish new connections with clinicians, particularly in the school system. She was a great storyteller, frequently using stories of the development of her own children. Mrs. Lewis retired in 2005, married James Edge and has remained in Richmond.

**Janet Kues, PT, M.S.**, joined the faculty in 1990 upon completion of her master's thesis under Dr. Rothstein. She taught electrotherapy and modalities for seven years before she married Karl Freberger and moved to North Carolina to teach.

**Reed Humphrey, PT, Ph.D.**, approached the faculty in 1991 after earning his doctorate in exercise physiology at the University of Pittsburgh, and teaching in the Division of Health, Physical Education and Recreation at Virginia Tech. Even though he was a certified exercise specialist and was particularly interested in cardiac rehabilitation and adult fitness, he felt limited by his lack of clinical patient knowledge. So Dr. Humphrey entered the physical therapy program to earn his M.S. in 1994 and joined the faculty to teach exercise physiology and cardiac rehabilitation. He became known internationally in cardiopulmonary rehabilitation and was recruited to become program chairman at the University of Montana in 2002.



## Student life

Macon Sizemore, PT, M.H.A., Class of 1982 and director of the physical therapy department at MCV Hospitals, contributed the following reflections on student life during this period:

"The students enrolled in the physical therapy program between 1969 and 1998 showed continuing trends in demography as the field became more dominated by females and more minority students were enrolled in the programs. The average class size was thirty to thirty-six students during much of this time span. The Medical College of Virginia and then Virginia Commonwealth University was the only option for physical therapy training in the Commonwealth until 1978 when Old Dominion University started its program. Getting accepted into the program was extremely competitive as more than 500 applications were received in many academic cycles.

"The competitive nature of being accepted into the program kept students with heightened vigilance and compliance with program expectations for fear of being removed and replaced by someone on the waiting list for admissions. Some students were initially intimidated by Miss Hirt and the faculty and took program policies to the extreme interpretation. A humorous example of this fear came with the ardent attempts of new students to be compliant with the pre-admission orientation information advising students on the requirements for lab uniforms. There were specific directions for the lab uniforms to consist of navy blue gym shorts with white piping stripes and for plain white T-shirts and blue halter tops for female students. There was great difficulty and concern in finding that lab gym shorts of that specific description in many hometowns and students eventually found out that if they wore T-shirts with small logos or gym shorts without piping that the faculty would not discipline them. Students of this time period were also expected to wear specific uniforms on clinical affiliations that also consisted of navy slacks and white lab coats. Men were expected to wear ties. All students arrived in clinic with their nametags on and at a minimum, a pocket goniometer and tape measure in the lab coat pockets.

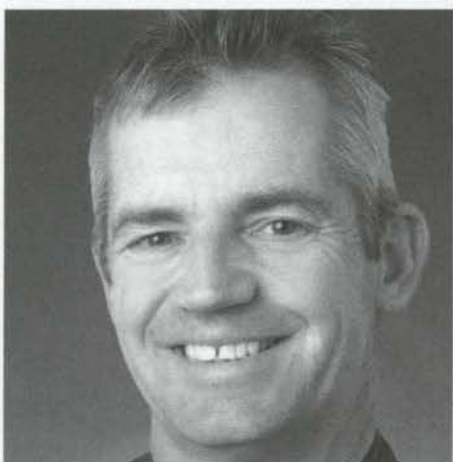
"Miss Hirt kept all students on 'their toes' with her energetic lecturing style and her heavy accent. Students would have to pay extra attention to make sure they understood her, particularly when she may have been introducing some neuroanatomy terminology that was novel to them. Miss Hirt was amazing in that she did so much of her lecture without



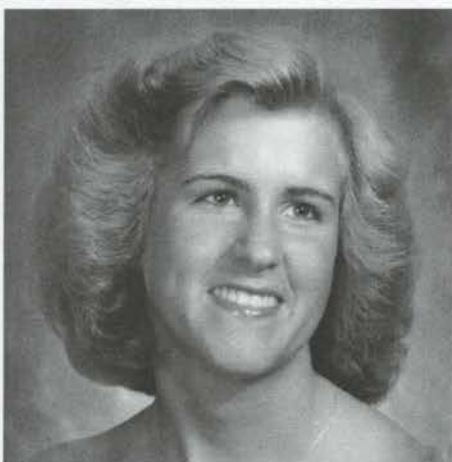
*Fig. 4.4: Jules Rothstein, PT, Ph.D., FAPTA, circa 1990*



*Fig. 4.5: M. Scott Sullivan, PT, Ph.D.*



*Fig.4.6: Reed Humphrey, PT, Ph.D.*



*Fig. 4.7: Cindy Gouldin, PT, circa 1987*



*Fig. 4.8: Kelly Bradway (left), Megan O'Malley, Alison Seger and Breena Oliver, Class of 1992*



the assistance of notes as she paced about the room in an animated fashion and would often spin around and direct a question suddenly to an unsuspecting student. Her questioning tone was often playful but her eyes flashed with an intensity that demanded a serious (and immediate) answer. The overachieving students would often try to write volumes of text to Miss Hirt's neuroanatomy essay questions. One particularly anxious student queried her during a test if she wanted them to write down everything possibly related to a particular topic. Her sage reply of 'you can write down everything you would like ... but underline what you want me to read' was a subtle reminder that she wasn't looking for the student to blindly regurgitate memorized material but rather to thoughtfully identify what was really needed.

"The concurrent fear and respect of Miss Hirt in her role as chair of the department was intensified by the location of her office on the third floor of South Hospital. Her office was located at the end of a curving hallway that wrapped around the side of the surgical amphitheater. The first trip to her office must have seemed like exploring a hidden cavern passageway as a student blindly proceeded around the curved hallway wondering 'what lay ahead' for them. The trepidation almost always proved to be unfounded.

"A dubious badge of honor that many PT classes claimed was having the most expensive set of textbooks of any of the health curriculums on the MCV Campus. In this time period, before digital and online resources were available, it was not unusual for the required textbook expenses to exceed \$600. Topping them all in bulk and cost were *Gray's Anatomy* (British version, of course), which Marianne McDonald insisted the students bring to class each day even though it might only be used a fraction of the time. *Ham's Histology* was a valuable reference but its glossy pages made its weight rival *Gray's Anatomy* as a backpack buster.

"The students were pleased, however, with the frequent distribution of CIBA booklets with classic Frank Netter illustrations. Not only were the booklets free to the students, but they were concise and strikingly illustrated to make sure that essential information was presented in a format that facilitated learning on a variety of topics. Mr. Netter's illustrations were to this population of students what modern day three-dimensional digital technology is to students of the twenty-first century.

"Functional anatomy was the most important of all of the classes for first-year students. Almost all students held Marianne McDonald in awe for her comprehensive knowledge of anatomy, kinesiology and

her passion for sharing her knowledge. She had an incredibly trained and experienced eye and could visualize anatomical landmarks and features that students couldn't find via palpation with the assistance of reference texts. She helped instill the sense of academic curiosity as we learned to look at the human body and its movements in a different way. 'Miss Mac,' as she was respectfully referred to, also taught the students respect for the human body. These lessons started when students got their first 'bone boxes' and continued through human dissection lab. She made sure we treated our specimens with respect and didn't take inappropriate liberties with these important anatomical teaching aids. We must have spent several hours just learning the articulations and muscle origins/insertions on the scapula alone.

"Miss Mac was often perceived by the students as 'tough and all business' but she surprised and delighted the students with a view of her softer side during a lecture on upper extremity anatomy. She was describing the actions of the middle portion of the pectoralis major muscle as being the key to the most important movement pattern for a human. The students' attention piqued and pens froze while they awaited the pronouncement of why the pectoralis major muscle was so important. Miss Mac then horizontally adducted both of her arms in front of her and said that these were the muscles that enabled humans to hug one another. The room was filled with 'oohs and ahhs' with the unexpected revelation of sentimentality from a faculty member who had previously been strictly focusing on the basics of origins, insertions and innervations.

"The rhythm of life for the physical therapy students circulated around class schedules (first- and second-year student schedules were always printed on pink and blue paper respectively). The students certainly got their excellent tuition value for the number of classroom and lab hours that they were scheduled for each week. Students would typically bring a bag lunch and eat/study between morning and afternoon classes. A regular practice for many students was to take a brief break before supper and then after supper at the Larrick Student Center they would head over in packs to the basement of the Tompkins-McCaw Library by 7 p.m. to get the best study carrels and chairs. They would stay there until closing time at 11 p.m. (except on Friday nights when studying ended early so students could watch the television show *Dallas*).

"One way to find physical therapy classmates in the basement of the library was to simply stand and watch for arms raised above the study carrel walls as the students moved in graceful repetitive movements



palpating joint movement or muscle sequencing during various upper extremity patterns. Sometimes the limbs took the appearance of a synchronized aquatic ballet when multiple students did self-palpation and assessment in the same plane of motion.

"There was a small break room on the fourth floor of South Hospital for the students to change and store bag lunches. Sometimes, leftovers from parties or receptions were placed in the break room for the students to enjoy. One day early in the academic year in 1979, students (always hungry and looking for free food) were excited to see a large plastic bag in the student break room refrigerator. The excitement turned to revulsion in a short time as they discovered the bag contained a cadaveric knee in advanced stage of dissection. Apparently, adjunct faculty member Robert Mangine, Ph.D., had been working on the knee and wasn't oriented yet to the proper areas for storage of cadaver specimens.

"One tradition that helped ease the transition into physical therapy student life was that of having an upper-class student assigned to an incoming student as a 'big brother/big sister.' There would often be a welcoming letter sent to the incoming student's home or perhaps a card and gift waiting in the mail slots at the school for them. Some upper-class students would bestow their dissection kits to their little brothers/little sisters as they had no future use of them. Otherwise, the two years of classes predominantly stuck to themselves as their schedules were quite full and relationships already established. Sometimes the upper-class students added fuel to the anxiety of the first-year students by passing along urban legend tales of faculty idiosyncrasies or the difficulty of certain subjects, but more often than not, they were supportive of the incoming class and let them know that there would always be some good-natured 'hazing' of the more gullible incoming students. Graduate students were largely separate from interactions with undergraduate students. They did often assist in labs and lectures, particularly when a faculty member was on sabbatical.

"When they were not in class or at the library studying, the physical therapy students had two favorite places to take a break, have fun and socialize. The Skull and Bones Restaurant on the corner of 12th and Broad Streets had been an MCV Campus institution for decades and provided a convenient place to sit down and order a cheeseburger and limeade and chat with classmates. It was usually packed at lunchtime so the waitresses had to encourage the patrons to move along, but that wasn't a problem for physical therapy students because they always had a 1 p.m. class. A smaller and quainter place frequented more commonly

by on-campus students was Joe's Grill located in the quadrant of the low-rise dormitories. Joe's had a couple of stools at the counter and two booths, so it was always cozy. One of the drawing cards of Joe's was that you could buy cold bottled beer there. Joe's was also popular as a respite from Larrick Student Center dining hall food.

"Another non-classroom activity that was enjoyed by many PT students was intramural athletics. Whether it was volleyball, basketball or flag football, it seemed that the PT classes always put together a very competitive team. It certainly was understandable considering that the PT students had a higher degree of overall fitness and athletic ability than the general student population. The PT students certainly had less free time to seek respite and release from their heavy academic requirements than other discipline students did. Woe be to the dental hygiene students who had to play flag football against a PT class full of former high school athletic heroes and overworked students looking for a physical outlet for their stress!

"In South Hospital, first-year students most commonly had classes in the fourth-floor classroom, which had tables and chairs set up in an 'H' shape so that the faculty could move about freely during lecture, and the class had good visibility. The second-year students utilized the third-floor classroom, which also doubled as the lab and was set up with individual desks. The South Hospital had reportedly been 'condemned' for some time but apparently got exceptions since it was a state-owned facility. The students typically would choose their own seats in the classrooms and stay with them out of habit. Students choosing to sit in the rear of the fourth-floor classroom were not aware that they would occasionally need to bring an umbrella to class when persistent roof leaks came directly upon their seats.

"The sad state of repair of South Hospital was also evident on the first and second floors where inpatient rehabilitation patients were treated. These long-term patients shared large ward-style rooms with many other patients who had spinal cord injuries, strokes, post-polio syndrome and other disabilities. Some of the beds had pieces of plywood balanced on top of the bed's traction and grab-bar hardware to protect the patients from pieces of debris that might fall from the twenty-foot ceilings. It was a tradition for the PT students to perform Christmas carols for the patients on these floors proximal to their classes.

"Anna Chorosevic Jugan, PT, from the Class of 1981, remembers lying in massage lab thoroughly enjoying a massage when part of the ceiling fell and hit her hand. It did not bother her much but the instructors insisted she go get checked out in student health on the first floor



of South Hospital. She was embarrassed having to trot off in her lab uniform of gym shorts and halter top to student health and explaining to them why they had to look at her perfectly fine finger. Just another one of the joys of having class in old South Hospital!

"The PT school relocated in the late 1980s to McGuire Hall before the further relocation to West Hospital. The move allowed the department to reorganize class, storage, and office and support areas for the first time in decades, so there was a lot of cleaning out to do in the move from South Hospital. The students adapted to the new quarters by starting a new tradition of decorating the bust of Dr. McGuire with balloons, hats and bandanas on the last day of classes.

"Dissection labs occurred on the 10th floor of Sanger Hall and were a nice break from the older classrooms of South Hospital or McGuire Hall. There were typically four to six students assigned to each cadaver, and each group usually had one person who excelled in certain dissection techniques. Nervous joking usually set the tone for the first two dissection labs, but soon after that the cadavers became more of an object of scientific study, and attention could be more focused on learning. The lab instructors always reminded us to be respectful to our cadavers and to recognize the privilege to have the incredible learning experiences. It was not uncommon for students to assign a nickname to their cadaver. Dissection labs were scheduled for three to four hours and often lasted up to the last half-hour of serving time of the Larrick Student Center dining hall. The PT students often didn't get a chance to change from their formaldehyde-infused clothing, and their presence in the dining hall was duly noticed when they entered as a group.

"Perhaps one of the most meaningful summaries of student life experiences in this era was provided by Sally Wright Trask, PT, from the Class of 1981, in the following thoughtful memory: 'I remember fondly all of the many hours spent in the lab. We dressed in gym shorts and halter tops to practice our emerging skills on each other. Under the guidance of our professors, we learned muscle locations, handling and communication techniques, and traditional therapies. It was a time of closeness and learning how to communicate and learn through touch. Looking back, I realize that human touch/connectedness must certainly be the keystone of our profession, and MCV's emphasis on this served me well.'"

## Student scholarships

Cindy Gouldin, PT, was a graduate of the VCU physical therapy program in 1987. She was a gentle, kind, sensitive young lady who believed in helping others and volunteering. She volunteered throughout her

life and, following surgery and irradiation for a brain tumor at thirty-two, she became a volunteer for the American Cancer Society, driving patients to their doctor and lab appointments. Dr. and Mrs. Gouldin have established the Cindy Gouldin Memorial Scholarship in memory of their daughter, who died of complications from the brain tumor May 22, 2003. Students vote on candidates within their class based on depth and breadth of service-related activities within health care, in the community or the world-at-large.

Megan O'Malley, PT, was a 1992 graduate of the Professional Physical Therapy Program. She was killed in an automobile accident October 10, 1992. Although her career was brief, her skill and love for the physical therapy profession was obvious to her peers. Miss O'Malley demonstrated exceptional qualities as a physical therapist and as a friend. She was best known for her vibrant smile, contagious laugh and thirst for life. The Megan O'Malley Memorial Fund was established by contributions from her family and friends. The fund was established to benefit future physical therapy students at VCU. Each year, upon recommendation from the faculty, books important to the profession of physical therapy are purchased and placed in the M. Scott Sullivan Memorial Library.



## CHAPTER 5

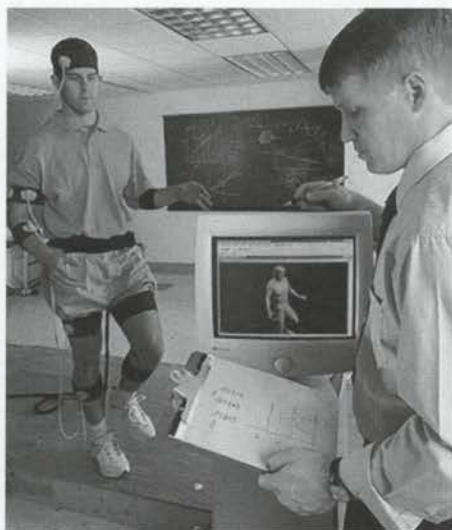
# The Doctor of Physical Therapy, 1999-2011

The department came full circle when it relocated again to West Hospital in 1999. This time the department moved into the remodeled basement and expanded the research and teaching facilities. The primary faculty meeting room was named the Susanne Hirt Conference Room in memory of the woman who led the program's development for so many years. The faculty offices are linked to the classroom computers to allow last-minute revision of lectures. There are fifty-four students in each class. Students begin the course work with anatomy taught by department Chair Thomas P. Mayhew, PT, Ph.D. The dissection laboratory in Sanger Hall is state-of-the-art with down draft on each cadaver tank with very little odor of formaldehyde. At the end of the first summer, students help professors Mary Snyder Shall, PT, Ph.D., and Sheryl Finucane, PT, Ph.D., remove the brains from the cadavers to use during functional neuroanatomy in the fall semester.

Support beams divide the classrooms so some of the students have to move around to see all of the whiteboards in the classroom (especially when Dr. Shall has drawn cross-sections of the central nervous system on all of the boards). On the other hand, some of the students seem to find the beams convenient for disappearing from view. The students begin observing patients in the fall semester, with the hospital



*Fig. 5.1: West Hospital, circa 1940*



*Fig. 5.4: Peter Pidcoe, PT, D.P.T., Ph.D., in the biomechanics movement lab*



*Fig. 5.2: Stacey Dusing, PT, Ph.D., in her motor development lab*



*Fig. 5.3: Lori Michener, PT, Ph.D., ATC, SCS, in her lab*



*Fig. 5.5: Mary Snyder Shall, PT, Ph.D., testing the VEMP of a baby, circa 2007*



*Fig. 5.6: The cardiopulmonary exercise lab of Ross Arena, PT, Ph.D., FAHA, FACSM, FAACVPR, 2001*



conveniently located across the street. Courses in areas such as rehabilitation and professionalism orient students toward their career. As they have done since 1931, the students practice the basic techniques on each other, using the tried-and-true tools of the trade: parallel bars, mats, transfer belts, blood pressure cuffs, stethoscopes, etc.

A few years later, in 2008, the infant care center was moved from the south end of West Hospital basement to an expanded day care center on the first floor of D Deck. When the parking deck was built in the 1990s, a modern toddler day care center was built into the first floor. Previously, the toddler day care center had been located on the Monroe Park Campus. The consolidated infant and toddler day care center allowed one drop-off point for parents. For the Department of Physical Therapy, the vacated day care center opened up a large area for student teaching laboratories and research laboratories.

In another area of the basement of West Hospital, there was a prisoner-holding area located next to the alley for secure unloading of prisoners from the prison vehicle. There was a door on the inside hallway with a sign saying "No weapons beyond this door." Guards transported prisoners to their various appointments in the hospital from this door. Finally, in 2009, the prisoner holding area was moved to the new Critical Care Hospital, leaving an area that needed major remodeling before it was a useful office space. Nevertheless, the physical therapy program was looking forward to the expansion to fill the basement.

The A.D. Williams Clinic building was built on Marshall Street in 1938 with funds donated by Adolph D. Williams, an old friend and patient of Hunter McGuire. The outpatient clinic was sorely needed as there was no room in Memorial Hospital. West Hospital was built in 1941 and attached to the A.D. Williams Clinic building almost seamlessly. Both buildings are old, and the clinic was scheduled for demolition in 2010, so the basement offices and laboratories that had been housed there were moved into the remodeled prisoner-holding area and infant center in 2009. With occupation of the entire floor, the teaching laboratories have expanded to include high-low plinths and mats. There also is a mock hospital room for patient simulation and a well-used student lounge. The research laboratories have been expanded to include the Motor Development Lab of Stacey Dusing, PT, Ph.D.; the COOR (Clinical Biomechanics, Orthopedic and Sports Outcomes Research) Lab of Lori Michener, PT, Ph.D., ATC, SCS; the Center for Engineering and Biomechanics Research run by Peter Pidcoe, PT, D.P.T., Ph.D.; and Dr. Shall's Sensorimotor Plasticity

Research Center. Ross Arena, PT, Ph.D., FAHA, FACSM, FAACVPR, conducts his research on patients with heart failure in the Cardiopulmonary Exercise Lab in the VCU Pauley Heart Center.

Cheryl Ford-Smith, PT, D.P.T., M.S., NCS, gathers her research data in the North Hospital physical therapy clinic and often Dr. Shall is seen towing her computer that collects vestibular evoked myogenic potentials over to the clinic to collaborate with Dr. Ford-Smith. The rabbit warren of tunnels that was put in place under the buildings back in the 1940s is still in existence, but only some tunnels are used.

As the 1990s drew to a close, the faculty formed a proposal for a three-year program awarding the Doctor of Physical Therapy (D.P.T.). As R. Scott Ward, PT, Ph.D., president of the American Physical Therapy Association from 2006 to 2012, explained in his 2006 response to *The Chronicle of Higher Education* when they asked why the entry-level degree is Doctor of Physical Therapy, “our desire to provide evidence-based care to produce the best outcomes for patients motivates us.” The level of practice in today’s physical therapy practice requires considerable breadth and depth in educational preparation, a breadth and depth not easily acquired within the time constraints of the typical professional master’s program. The program had already expanded to 89 credits in three years and needed more emphasis on diagnosis and prognosis as described below.

Dr. Lamb retired in 2000 and Dr. Shall, as interim chairman, finished taking the D.P.T. proposal through the levels of the university to the Board of Visitors and the State Council of Higher Education for Virginia in June 2001. The first D.P.T. students graduated in 2003 under the leadership of the current department chairman, Dr. Mayhew.

## Doctor of Physical Therapy

The major enhancements for the three-year D.P.T. program are determination of the diagnosis and prognosis of an individual with impairments, functional limitations and disabilities, or changes in physical function and health status; heightened awareness of patient safety and efficiency of interventions; and more emphasis on optimal health promotion and prevention of disability. The students are required to have earned a bachelor’s degree before admission. The program has the same prerequisites, with the addition of a course in abnormal psychology and a course in speech and public speaking.



D.P.T. students complete thirty-six full-time weeks of clinical education at VCU. The first clinical experience is four weeks in duration and occurs during the summer after the completion of the first academic year. The second clinical experience is eight weeks in duration and occurs during the summer after the completion of the second academic year. The three terminal eight-week experiences occur in sequence during the third academic year from late October through the end of April. In addition to the full-time clinical education experiences, students complete approximately eighty part-time clinical hours in academic courses in the curriculum.

VCU's Department of Physical Therapy currently affiliates with approximately 250 clinical sites throughout the continental United States. The majority of these sites are in the mid-Atlantic region, but interested students have limited opportunities to travel to other sites around the country. D.P.T. students are required to complete clinical experiences in three areas: acute care, outpatient orthopaedics and rehabilitation. Opportunities also include specialty clinical experiences in areas such as pediatrics, women's health, cancer rehabilitation and sports medicine. Students also may elect to do the last two experiences in more traditional areas.

The demand for a transitional D.P.T. was strong, so a tD.P.T. program was developed in 2004 under the guidance of Karen Sparrow, PT, Ph.D. The fifteen- to twenty-one credit hour tD.P.T. program is designed for practicing clinicians and offers a didactic augmentation of clinicians' professional education to meet current and future expectations for physical therapy practice. The first cohort of students matriculated in January 2005, taking most of the courses online with two or three on-campus weekend visits for practical sessions. Dixie Bowman, PT, D.P.T., Ed.D., took over the coordination of the program in 2008.

The first doctoral programs, developed in the early 1980s, allowed physical therapists to obtain a doctorate through the School of Basic Health Sciences' (now part of the School of Medicine) anatomy and physiology departments combining course work, teaching and research within both the basic science and physical therapy departments. Development of the School of Allied Health Profession's Ph.D. in Health Related Sciences and later the Ph.D. in Rehabilitation and Movement Science have provided the physical therapy faculty with the opportunity to guide graduate students toward developing research skills needed to meet the goals of providing evidence-based rehabilitation evaluation, treatment and outcome assessment.



*Fig. 5.7: Thomas P. Mayhew, PT, Ph.D.*



*Fig. 5.8: Ross Arena, PT, Ph.D., FAHA, FACSM, FAACVPR*



*Fig. 5.9: Dixie H. Bowman, PT, D.P.T., Ed.D.*



*Fig. 5.10: Lisa Donegan Shoaf, PT, D.P.T., Ph.D.*



*Fig. 5.11: Stacey Dusing, PT, Ph.D.*



*Fig. 5.12: Sheryl Finucane, PT, Ph.D.*



## Faculty

The constituency of the faculty continued to evolve as the department moved into the twenty-first century. Dr. Michener brought her orthopaedic expertise to the faculty in 1999, as she finished her doctorate in orthopaedic physical therapy at MCP Hahnemann University. Dianne Jewell, PT, D.P.T., Ph.D., CCS, FAACVPR, joined the faculty in 2000, as she was finishing her doctorate in health administration. Dr. Sparrow finished her Ph.D. in the anatomy/physical therapy program in 1999 and helped Dr. Mayhew teach anatomy and directed the transitional D.P.T. program until 2007, when her child's illness demanded more attention. Dr. Ford-Smith finished her advanced master's thesis and continued work in the clinic until 2001, when Robert Lamb, PT, Ph.D., FAPTA, recruited her for her neurologic expertise. Dr. Arena joined the faculty when Dr. Humphrey left in 2002. Finally, in 2005, the courses were juggled as Dr. Ford-Smith took over neurologic physical therapy when Annabel Lewis, PT, M.S., retired from VCU. Dr. Bowman joined the faculty to teach rehabilitation, and Dr. Dusing finished her dissertation at the University of North Carolina and came to VCU to conduct research and teach pediatrics.

So, on its eightieth anniversary in 2011, VCU offers one of the best D.P.T. programs in the country. Located in the heart of the VCU Medical Center, the program provides students with easy access to state-of-the-art clinical and research facilities. Every facet of physical therapy is represented in the curriculum at entry level, and many areas are the objects of faculty research. The department includes thirteen full-time faculty members, more than twenty adjunct faculty members and four staff members. The full-time faculty represent the gamut of specialization in the practice and study of physical therapy.

### Thomas P. Mayhew, PT, Ph.D.

Associate professor and department chairman with an affiliate appointment in the School of Medicine's Department of Anatomy and Neurobiology, Dr. Mayhew holds a doctorate in anatomy and physical therapy. He teaches anatomy, the first course in the program. His research interests primarily focus on measurement of muscular and functional performance in pediatric and adult patients with neuromuscular disease and muscular adaptation to exercise.

## **Ross Arena, PT, Ph.D., FAHA, FACSM, FAACVPR**

Professor with joint appointments in the School of Medicine's Department of Physiology and Biophysics and Department of Internal Medicine, Dr. Arena holds a doctorate in physiology. He teaches courses in cardiopulmonary physical therapy, exercise physiology and pharmacology in the D.P.T. program. He is a fellow and active member of the American Heart Association, American College of Sports Medicine and American Association of Cardiovascular and Pulmonary Rehabilitation. His primary research interest is investigating the clinical value of cardiopulmonary exercise testing and training in the heart failure population.

## **Dixie H. Bowman, PT, D.P.T., Ed.D.**

Director of the transitional D.P.T. program and assistant professor, Dr. Bowman holds an Ed.D. in Health Care Education. She teaches the rehabilitation I and II courses and coordinates the clinical medicine course in the D.P.T. program. She was a 1979 graduate of the VCU program and was the director of the physical therapist assistant program at John Tyler Community College. Her primary research interests are in the areas of assessment, professional development and excellence in teaching and learning.

## **Stacey Dusing, PT, Ph.D.**

Assistant professor of physical therapy and a core faculty member of the VA-Leadership Education in Neurodevelopment Disabilities program, Dr. Dusing teaches courses on infant and child development, assessment and treatment in pediatric physical therapy. She holds a doctorate in human movement science from the University of North Carolina. Dr. Dusing is also the director of the Motor Development Laboratory, which aims to advance the early detection and treatment of developmental disabilities. She is currently funded by a National Institutes of Health-supported career development program (Comprehensive Opportunities in Rehabilitation Research Training, CORRT). Dr. Dusing completed a two-year mentored research experience at the University of Delaware with James "Cole" Galloway, focusing on the development of postural control and reaching in typically developing infants during the first six months of life.



The expansion of this project to evaluate postural control and reaching deficits in high-risk preterm infants is under way at VCU. Additional research projects focus on parent education in the Neonatal Intensive Care Unit, neonatal interventions to support motor development and interventions to advance sitting.

### **Sheryl Finucane, PT, Ph.D.**

Assistant professor and coordinator of graduate education, Dr. Finucane holds a doctorate in anatomy and physical therapy and has an affiliate appointment in the Department of Anatomy and Neurobiology in the School of Medicine. Her primary interests are in the areas of the effects of injury, disease and therapy on the structure and function of musculoskeletal tissues. Dr. Finucane teaches courses in the professional curriculum on microscopic anatomy and neuroanatomy and in the graduate curriculum on the impact of age, disease and therapy on tissue structure and function. In her spare time, she is active in several state and regional organizations advocating for bicyclists and pedestrians and teaching safe bicycling practices.

### **Cheryl Ford-Smith, PT, D.P.T., M.S., NCS**

Associate professor with an advanced master of science in the physical therapy neurologic track at VCU, Dr. Ford-Smith teaches courses on neurological physical therapy, prosthetics and orthotics, clinical integration of physical therapy concepts, and a specialty module in vestibular rehabilitation. Her clinical practice focuses on balance and vestibular rehabilitation. She is chair of the Minority Recruitment and Retention Committee in the Department of Physical Therapy. Her primary research interest is in fall prevention in the elderly, the reliability of balance evaluation tools and interventions for vestibular and balance rehabilitation.

### **Dianne Jewell, PT, D.P.T., Ph.D., CCS, FAACVPR**

An assistant professor, Dr. Jewell holds a doctorate in health services research and organization. She is a full-time faculty member in the professional D.P.T. program and a contributing faculty member



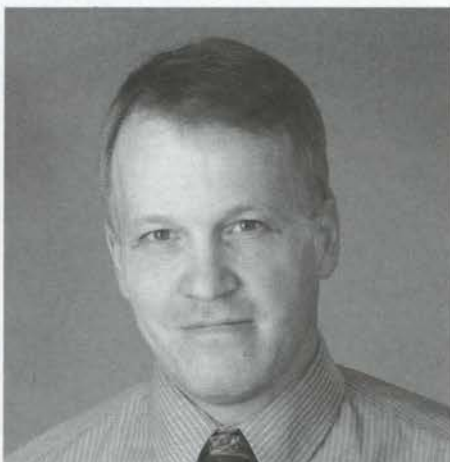
*Fig. 5.13: Cheryl Ford-Smith, PT, D.P.T., M.S., NCS*



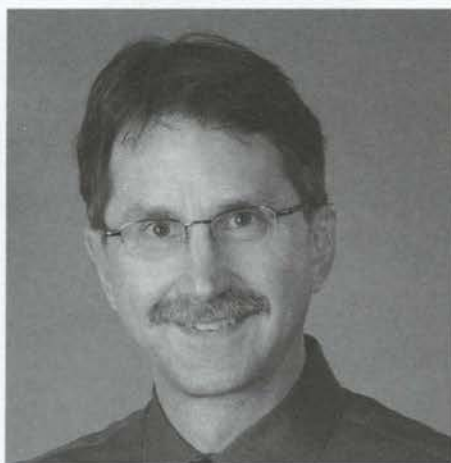
*Fig. 5.14: Dianne Jewell, PT, D.P.T., Ph.D., CCS, FAACVPR*



*Fig. 5.15: Lori Michener, PT, Ph.D., ATC, SCS*



*Fig. 5.16: Peter Pidcoe, PT, D.P.T., Ph.D.*



*Fig. 5.17: Daniel Riddle, PT, Ph.D., FAPTA*



in the transitional D.P.T. program. Dr. Jewell also advises students enrolled in the physical therapy track of the School of Allied Health Professions' doctoral distance-learning program. Her teaching responsibilities include courses in evidence-based physical therapist practice, health policy and legislation, and administration and management. Dr. Jewell's clinical interests include cardiovascular and pulmonary co-morbidities in rehabilitation populations and primary physical therapy care of patients without health insurance. Her research interests include outcomes of physical therapy for patients with cardiovascular or pulmonary disorders, disparities in access to physical therapy services and practice variation in physical therapy management of orthopaedic disorders. Dr. Jewell has served on the American Physical Therapy Association board of directors since 2007.

### **Lori Michener, PT, Ph.D., ATC, SCS**

Dr. Michener holds a doctorate in orthopaedic physical therapy. She also has affiliate appointments in the School of Medicine's Department of Physical Medicine and Rehabilitation and Department of Anatomy and Neurobiology. Dr. Michener teaches courses on orthopaedic and sports physical therapy in the entry-level D.P.T. and the transitional D.P.T. programs. In the Ph.D. in Rehabilitation and Movement Science program, she teaches in the neuromusculo-skeletal dynamics track. Her clinical practice is in orthopaedics and sports physical therapy at the VCU Sports Medicine Clinic. Dr. Michener is the director of the COOR Laboratory. Her research interests are in the areas of shoulder biomechanics, diagnosis of musculoskeletal conditions, assessment of treatment effectiveness and outcomes in patients with upper extremity and cervical dysfunctions.

### **Peter Pidcoe, PT, D.P.T., Ph.D.**

An associate professor with affiliate appointments in the Department of Biomedical Engineering in the VCU School of Engineering as well as in the School of Medicine, Dr. Pidcoe holds a doctorate in bioengineering. He teaches kinesiology and biomechanics. His primary research interests are in the areas of human performance changes with fatigue, the role of sensory information in balance recovery and the impact of therapy on injury prevention.

## Daniel Riddle, PT, Ph.D., FAPTA

Assistant chair, the Payton Professor of Physical Therapy and department coordinator of the School of Allied Health Professions' doctoral distance-learning program, Dr. Riddle has a doctorate in education. He teaches courses on musculoskeletal assessment and the disablement process. Dr. Riddle's primary research interests are in the areas of arthritis, musculoskeletal assessment and outcomes of musculoskeletal disorders. Dr. Riddle became deputy editor of *Physical Therapy* in May 2006.

## Mary Snyder Shall, PT, Ph.D.

An associate professor with an affiliate appointment in the VCU School of Medicine's Department of Anatomy and Neurobiology, Dr. Shall teaches functional neuroanatomy in the physical therapy program, mentors a module on yoga in the medical school curriculum and advises students in neurologic areas in the doctoral programs. Her primary research interests are in the areas of the mechanical parameters and behavior of motor units used for fine motor control (such as extraocular and tongue muscles) and in the role of the vestibular system input on the development of skeletal muscle fiber types. Dr. Shall is also leading an effort to establish an integrative health center in the VCU Massey Cancer Center.

## Lisa Donegan Shoaf, PT, D.P.T., Ph.D.

Associate professor and director of clinical education, Dr. Shoaf holds a doctorate in education and is a past president of the Virginia Physical Therapy Association (2006-08). She oversees all aspects of the clinical education portion of the program. Dr. Shoaf also teaches courses related to professionalism, ethics and psychosocial aspects of physical therapy, as well as assisting in portions of the musculoskeletal courses. In addition, she teaches part time in the Department of Dance and Choreography at VCU — specifically the anatomy and dance science courses. Her clinical practice is in orthopaedics, with emphasis in dance medicine, treating the VCU dancers and those of the Richmond Ballet. Dr. Shoaf's research interests are in the areas of clinical education, low-back pain and dance medicine.



## **Emma Wheeler, PT, D.P.T., M.S.**

An assistant professor and chair of admissions for the entry-level D.P.T. program and the assistant director of clinical education, Dr. Wheeler holds an advanced master's in physical therapy in the neurologic track from VCU. She teaches courses in therapeutic modalities and geriatric physical therapy. Her primary research interests are in the areas of fall risk in the elderly, therapeutic modalities, clinical education and predicting academic success from admissions data.

## **Student awards**

The VCU physical therapy Class of 2002 established the Marjorie Champion Salamone Award to honor the memory of the mother of one of their fellow classmates, Ann Marie Salamone. Mrs. Salamone died during the terrorist attack at the Pentagon September 11, 2001. Students in the graduating class select the recipient who exemplifies values similar to those of the award namesake: love for profession, caring, compassion, concern for his or her fellow man, and willingness to give of one's time and talent to the overall benefit of the individual and society.

In 2010, Janet and Lee Showalter endowed the Lewis and Violet Childers Scholarship in loving memory of her parents. Mr. and Mrs. Childers worked hard to earn the money that gave Janet the opportunity to study physical therapy at MCV (Class of 1958) and enter a profession. This annual scholarship is awarded to a physical therapy student with strong academic credentials and a financial need.

## **Student life**

Students have been active in service activities in Richmond and beyond. All of the students are expected to complete two service activities while in the physical therapy program. Many of the students help organize the Marquette Challenge for the Foundation for Physical Therapy fundraiser every year. The Foundation for Physical Therapy was established in 1979 as a national, independent, nonprofit corporation dedicated to the ultimate goal of improving the quality and delivery of patient care. The foundation accomplishes this goal by providing support for scientifically based and clinically relevant physical therapy research. In 2010, the students raised



*Fig. 5.18: Mary Snyder Shall, PT, Ph.D.*



*Fig. 5.19: Emma Wheeler, PT, D.P.T., M.S.*



*Fig. 5.20: Marjorie Champion Salamone, who died in the terrorist attack on the Pentagon Sept. 11, 2001*



*Fig. 5.21: Lewis and Violet Childers*



*Fig. 5.22: Dan Syrett (left), Class of 2012, and Mary Beth Brown, Class of 2011, accepting the 2010 Marquette Challenge Award of Merit from William G. Boissonnault, PT, D.P.T., DHSc, FAPTA, FAAOMPT, president of the Foundation for Physical Therapy*



more than \$8,000 for the cause. Some students leave the United States to help in underdeveloped countries. For example, in 2010, twelve students volunteered in the medical clinic in La Ceiba, Honduras, for two weeks.

Other students raise money by participating in the Richmond Walk to Defeat ALS, the Richmond Heart Walk, the Massey Challenge and the Richmond SPCA Dog Jog. Some students collect items and money to buy items for Camp Bruce McCoy, a camp for individuals with brain injuries. One student volunteers there every summer. A couple of the students volunteer with Sportable, an adaptive sports league in Richmond. The league includes wheelchair tennis, basketball, soccer, kayaking and other sports for people with disabilities.

Renata Salvatori, PT, Class of 2010, reported on student life: "Students were scattered all around Richmond. Several in the Fan area, some in Shockoe Bottom, some ventured to the West End and had to fight traffic, and others even went as far as to move to the Southside to escape high rent. Some were living with classmates, others with significant others or spouses. There were the lonely ones, and the ones still at mom and dad's house; nothing wrong with trying to survive dry bank account times or to try to avoid high-interest loans haunting you for the rest of your life! For entertainment and enjoyment, we went out to the bars in the Fan and at the Bottom. Some provided outside sitting — always a winner — another had Karaoke night ... not my personal favorite but I was certainly the minority on that one! I guess they were just practicing Plan B in case physical therapy ends up not working out. One of the activities that became a must was the Rock-Paper-Scissors Tournament. Some of us got introduced to it by a few upperclassmen. We started attending the weekly event in a shy manner ... just to support our friends. However, once their class graduated and they went off to the real world, it was expected that we would continue the tradition and we did not fail them. The RPS night happened every Wednesday. One had to adopt a battle name and wear a costume — both of which would help you earn points — as well as to attend as many events as possible in order to classify for the final round. There was a stage, an announcer, a microphone, special music and a bracket in the wall. The weekly ranking published in a local newspaper was always the excitement of the week if it had one of us in the picture, battling it out! Because attendance was worth points, on several occasions before a test, we would be sitting at the tables, holding our notebooks in our laps and quizzing each other in order to fulfill both obligations. The winner of the final round was awarded a \$1,000 check and one-year membership to a big gym,

both very important to us young graduate students. Of course, there were the loyal players: Made in Brazil (Nata), IPTYDFU (Tom), Ginger (Whitney), T-Rex (Crystal), Rainbow Bright (Sarah), Irish Cream (Molly), Mr. Jacket (Ryan) and Scissor me Timbers (Ashley). We were the light of the night, at least on Wednesdays. They always waited for us to finish out finals week in order to schedule the final round. The bar also made a whole new menu and named drinks after us!! Oh the Borders, which closed after we finished PT school, will be missed!!!”



“To be able to move into the future we must have the capacity for change and must be able to respond to change. To prepare students for the uncertainties of the future is indeed an essential ingredient of higher education. If Mary McMillan were here with us today, I feel certain that she would say to us what she said to her colleagues while in the midst of creating a new profession: ‘What we need now is a unanimous effort to establish high standards for our profession — and enthusiasm that knows no bounds.’”

– Susanne B. Hirt, RPT, M.Ed.,  
speaking at the 16th annual  
Mary McMillan Lecture, 1981

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*Figure 1.3. "Walking members for the bilateral amputation of thigh" by Thomas Wheeldon, M.D., appeared in the *Journal of Bone and Joint Surgery* in 1933. *Journal of Bone and Joint Surgery American*, 1933, 15, Walking members for the bilateral amputation of thigh, Wheeldon, 527.*

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Since its inception during the foundation of the physical therapy profession, the Department of Physical Therapy at Virginia Commonwealth University has maintained a reputation for pre-eminence in teaching, research and health care. Through archived files, yearbooks and interviews with faculty and alumni, this book follows the department's first 80 years and honors the faculty members and alumni who influenced the local and national development of the profession.

